VideoJet 8008 – Network video server

Security Systems

EN	Installation and Operating Manual Network Video Server
DE	Installations- und Bedienungshandbuch Netzwerk Video Server
NL	Installatie- en bedieningshandleiding Netwerkvideoserver
FR	Manuel d'installation et d'utilisation Serveur vidéo réseau
IT	Manuale di installazione e operativo Server video di rete
ES	Manual de instalación y funcionamiento Servidor de canal de vídeo
PT	Manual de Instalação e Funcionamento Servidor de Vídeo de Rede
PL	Podręcznik instalacji i obsługi Sieciowy serwer wideo
CS	Návod k instalaci a použití Síťový video server
HU	Telepítési és kezelési útmutató Hálózati videoszerver
RU	Руководство по установке и эксплуатации Сетевой видеосервер
TR	Kurulum ve Kullanma Kılavuzu Ağ Video Sunucusu
EL	Εγχειρίδιο εγκατάστασης και λειτουργίας Video Server δικτύου
DA	Installations- og betjeningsvejledning Netværksvideoserver
NO	Installerings- og brukerhåndbok Nettverksvideoserver
FI	Asennus- ja käyttöopas Network Video Server
SV	Installations- och användarhandbok Nätverksvideoserver
ZH	安装和使用手册 网络视频服务器

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Note

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1 Preface

This user guide is intended for persons responsible for the installation and operation of the VideoJet 8008. International, national and any regional regulations regarding electronics must be followed at all times. Relevant knowledge of network technology is required. The user guide describes the installation and operation of the unit.

Conventions

In this user guide, the following symbols and notation are used to draw attention to special situations:

Warning!
This symbol indicates that failure to follow the safety instructions described may endanger persons and cause damage to the unit or other equipment. It is associated with immediate, direct hazards.

Note
This symbol indicates tips and information for easier, more convenient use of the unit.

Intended use

The VideoJet 8008 network video server transmits video and control signals over data networks (Ethernet LAN, Internet). The integrated hard disk allows the VideoJet 8008 to be used as a DVR. It is designed for use in CCTV systems. By incorporating external alarm sensors, various functions can be triggered automatically. Other applications are not permitted.

In the event of questions concerning the use of the unit, which are not answered in this manual, please contact your sales partner or:

Bosch Sicherheitssyteme GmbH
Robert-Koch-Straße 100
85521 Ottobrunn
Germany

www.bosch-sicherheitssysteme.de

EU Directives

The VideoJet 8008 network video server complies with the requirements of EU Directives 89/336 (Electromagnetic Compatibility) and 73/23, amended by 93/68 (Low Voltage Directive).

Rating plate

For exact identification, the model name and serial number are inscribed on the rating plate on the bottom of the housing. Please note this information if necessary before installation so it will be available in case of questions or for spare parts orders.

2 Safety information

Electric shock hazard

- Never attempt to connect the unit to any power network other than the type for which it was intended.
- Never open the housing!
- If a fault occurs, disconnect the unit from the mains supply and from all other devices.
- Install the unit only in dry, weather-protected areas.
- If safe operation of the unit cannot be ensured, remove it from service and secure it to prevent unauthorized start-up. Safe operation is no longer possible in the following cases:
  - if there is visible damage to the unit or power cables,
  - if the unit no longer works properly,
  - if the unit has been exposed to rain or moisture,
  - if foreign matter has infiltrated the unit,
  - after long storage under adverse conditions or
  - after exposure to extraordinary transport stress.

  In such cases, have the unit checked by Bosch Security Systems.

Installation and operation

- The relevant electrical regulations and guidelines must be complied with at all times during installation.
- Relevant knowledge of network technology is required to install the unit.
- Before installing or operating the unit, make sure you have read and understood the documentation for the other equipment connected, such as cameras. This contains important safety instructions and information about permitted uses.
- Perform only the installation and operating steps described in this manual. Actions beyond these may lead to personal injury, damage to property or damage to the equipment.

Maintenance and repair

- Never open the casing of the VideoJet 8008. The unit does not contain any user serviceable parts.
- Ensure that all maintenance or repair work is performed only by qualified personnel (electrical engineering or network technology specialists).

3 Product description

Components supplied

- VideoJet 8008 network video server
- Mains cable
- Configuration cable
- Assembly kit for installation in 19" racks
- Quick start guide in English/German
- Product CD with the following content:
  - Quick start guide in English/German
  - User guide in English/German
  - Datasheet System Requirements
  - MPEG ActiveX control
  - MPEG viewer
  - DirectX control
  - Microsoft Internet Explorer
  - Microsoft Virtual Machine
  - Adobe Acrobat Reader
- 3.5" hard disk

System requirements for setup

- Computer with Windows 2000/XP operating system, access to network and Microsoft Internet Explorer (version 6.0 or later)

  or

- Computer with Windows 2000/XP operating system, an available serial port and terminal software

Configuration requirements

- Computer with Windows 2000/XP operating system, network access and Microsoft Internet Explorer web browser (version 6.0 or later)

  or

- Computer with Windows 2000/XP operating system, network access and reception software, for example VIDOS

Note

You should also take note of the information in the **System requirements** datasheet on the product CD supplied.

Make sure the graphics card is set to 16 or 32 bit color depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Operational requirements

- Computer with Windows 2000/XP operating system, network access and Microsoft Internet Explorer web browser (version 6.0 or later)

  or

- Computer with Windows 2000/XP operating system, network access and reception software, for example VIDOS

  or

- MPEG-4 compatible hardware decoder from Bosch Security Systems (such as VIP XD) as a receiver and a connected video monitor

Note

You should also take note of the information in the **System requirements** datasheet on the product CD supplied.

Make sure the graphics card for reception on the computer monitor is set to 16 or 32 bit color depth and that Microsoft Virtual Machine is installed and activated on the PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Overview of functions

Network video server

The VideoJet 8008 is a network video server for eight independent video channels. Its primary function is to encode video and control data for transmission over an IP network. The VideoJet 8008 simultaneously encodes eight non-multiplexed data streams in MPEG-4 format. The use of existing networks means that integration with CCTV systems or local networks can be achieved quickly and easily.

The VideoJet 8008 is designed as a table-top unit and for installation in control cabinets. The assembly kit supplied allows it to be installed in a 19" rack quickly and easily.

Two units, for example a VideoJet 8008 as the transmitter and another VIP XD as the receiver, can form a stand-alone system for data transfer without a PC. Video images from one transmitter can be simultaneously received on several receivers.

Receiver

MPEG-4 compatible hardware decoders (for example VIP XD) can be used as a receiver. Computers with decoding software such as VIDOS or computers with the Microsoft Internet Explorer web browser installed can also be used as receivers.

Video encoding

The VideoJet 8008 uses the MPEG-4 compression standard. Thanks to efficient encoding, the data rate remains low even with high image quality and can also be adapted to local conditions within wide limits. Simultaneous encoding of all eight video channels is supported.

Dual Streaming

Dual Streaming allows the incoming data stream to be encoded simultaneously according to two different, individually customized profiles. This creates two data streams per camera that can serve different purposes, for example one for local recording and one optimized for transmission over the LAN.

Multicast

In suitably configured networks, the multicast function enables simultaneous, real time transmission to multiple receivers. The prerequisite for this is that the UDP and IGMP V2 protocols are implemented on the network.

DVR

The integrated hard disk allows the VideoJet 8008 to be used as a digital video recorder for local long-term recording.

The VideoJet 8008 supports ANR technology, which guarantees seamless and uninterrupted storage with VIDOS-NVR even in the case of network failures.

Remote control

For remote control of external devices, such as pan and tilt heads for cameras or motorized zoom lenses, the control data is transmitted via the VideoJet 8008's bi-directional serial interface. This interface can also be used to transmit transparent data.

Configuration

The VideoJet 8008 can be configured using a browser on the local network (Intranet) or from the Internet. Firmware updates and fast loading of device configurations are possible in the same way.

Snapshots

Individual video frames (snapshots) can be called up as JPEG images by the VideoJet 8008, stored on the hard disk or displayed in a separate browser window.

Backup

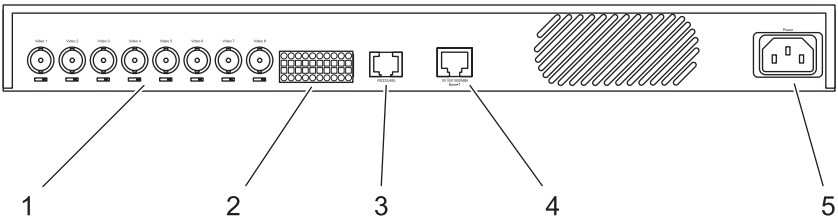
Both the LIVEPAGE and the MEDIA-REPLAY page include an icon for saving the video images provided by the unit as a file on your computer's hard disk. Clicking this icon stores the video sequences and they can be played back with the MPEG viewer included with the package.

Summary

The VideoJet 8008 provides the following main functions:

- Video and data transmission over IP data networks
- Dual Streaming function for the encoder for simultaneous encoding with two individually definable profiles
- Multicast function for simultaneous picture transmission to multiple receivers
- Eight independent, analog BNC video inputs FBAS (PAL/NTSC)
- Video encoding using international MPEG-4 standard
- Integrated Ethernet interface (10/100/1000 Base-T)
- Transparent bi-directional data channel using a serial interface RS232/RS422/RS485
- Local long-term recording on integrated 3.5" hard disk
- Remote control of all built-in functions via TCP/IP
- Password protection to prevent unauthorized connection or configuration changes
- Event-driven, automatic connection (for example at switch-on and for alarms)
- Video signal monitoring
- Fast, convenient configuration using the integrated Web server and a browser
- Firmware update using flash memory
- Convenient upload of configuration data

Rear panel connections



1 Eight video inputs **Video 1** ... **Video 8**
BNC jack for connection of video sources
with switch for 75 Ohm terminating resistor

2 Ten alarm inputs **IN1** ... **IN10**
Push-in terminals for connecting external signal sources or switches

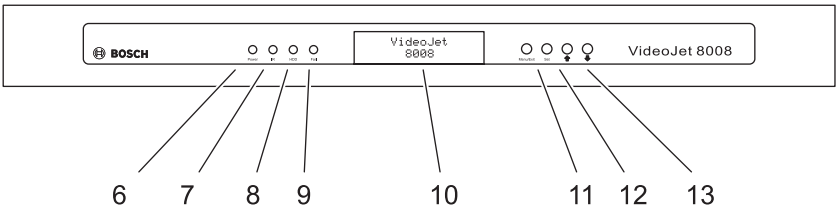
3 Serial interface **RS232/485**
RJ45 jack for transmission of control data (RS232, RS422 and RS485 standards) and for configuration using terminal software

4 RJ45 jack **10/100/1000 MBit Base-T**
for connecting to an Ethernet LAN
incl. green LED network link (left) and orange LED data traffic (right)

5 Power **socket**
for connecting the mains cable

Further information on the LEDs can be found on page 123.

Front panel



6 **Power** LED
lights up green when ready for operation

7 **IR** diode
Infrared receiver (for future expansion of functions)

8 **HDD** LED
flashes red during data transmission to and from hard disk

9 **Fail** LED
flashes red in case of hardware fault (fan defective)

10 Display
for presentation of operating parameters

11 **Menu/Exit** key
to activate and deactivate the configuration menu

12 **Set** key
to save changes to the operating parameters
(for future expansion of functions)

13 Arrow keys
for navigation in display menu

Further information on the LEDs can be found on page 123.

4 Installation

The VideoJet 8008 is designed as a table-top unit and for installation in control cabinets. The assembly kit supplied allows it to be installed in a 19" rack quickly and easily.

For table-top operation, four self-adhesive, anti-slip rubber feet are supplied, which can be stuck under the unit.

Warning!

The unit is intended for use indoors. Select a suitable location for installation where the unit will not be subjected to conditions of extreme temperature or humidity. The ambient temperature must be within the specifications for the unit in use (see page 128), and the relative humidity may not exceed 80% (non precipitating).

The unit generates heat during operation. Ensure that there is adequate ventilation and also that there is enough clearance between the unit and heat-sensitive objects or equipment.

Please ensure the following conditions for installation:

- Do not install the unit close to heaters or other heat sources. Avoid locations in direct sunlight.
- Allow sufficient space for running cables.
- Ensure that the unit has adequate ventilation. For control cabinet installation of multiple units, pay particular attention to the overall thermal load.
- Use only the cables supplied for connections or appropriate cables resistant to electromagnetic interference.
- Position and run all cables so that they are protected from damage, and provide strain relief where needed.
- Avoid shocks, bashes and strong vibrations as they might destroy the unit.

Control cabinet installation

The VideoJet 8008 is set up for installation in a 19" rack. The necessary assembly kit is included with the unit.

Warning!

When installing in control cabinets, ensure that each unit has adequate ventilation. The free space around the unit must be at least 5 cm on the right and left sides and at least 10 cm at the rear.

The ambient temperature must be within the specifications for the unit in use (see page 128), and the relative humidity may not exceed 80%.

The unit generates heat during operation. You should therefore ensure sufficient distance from other equipment or objects that are sensitive to heat.

When installing additional units, direct contact with the VideoJet 8008 is permitted if the surface temperature of the adjacent units does not exceed +40 °C.

Installing the unit

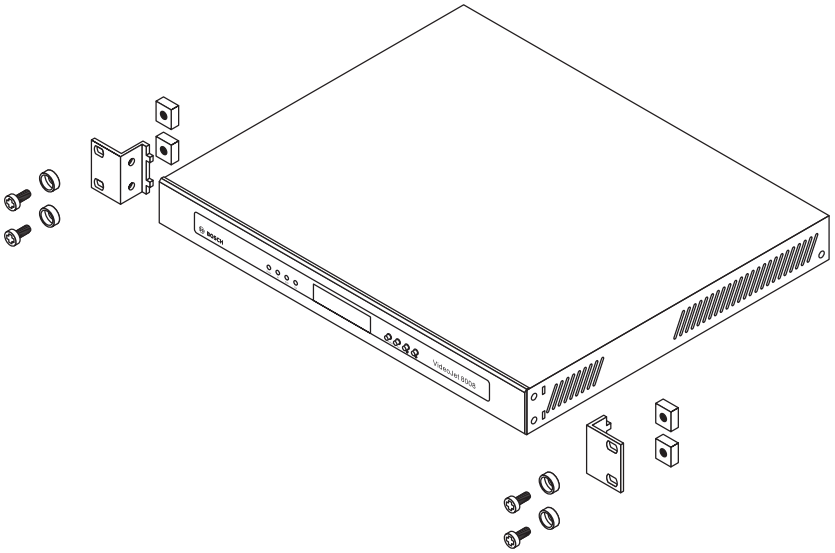
– On the left and right side of the unit, loosen the two screws at the front and completely remove them.

– Place the two brackets from the assembly kit recesses next to the screw holes in the housing and screw down with the four housing screws.

– Place the unit in the control cabinet and attach the bracket to the frame using the four screws, washers and lock nuts supplied.

– Insert the connector on the mains cable supplied into the **Power** socket on the rear of the unit.

Installation overview



Connections

Cameras

Up to eight standard video sources (e.g. CCTV cameras) can be connected to the VideoJet 8008. Any cameras or other video sources that produce a standard PAL or NTSC signal are suitable.

– Connect each of the cameras or other video sources with a video cable (75 ohm) to the BNC jacks **Video 1** to **Video 8**.

– Set the slider switch (**75** Ω) below the BNC jacks to ● to terminate the video input if the signal is not forwarded.

Data interface

The bi-directional data interface is used to control devices connected to the VideoJet 8008, such as a dome camera with a motorized lens.

The **RS232/485** connection supports the RS232, RS422 and RS485 transmission standards.

The serial interface is an RJ45 jack. Information about the pin assignment can be found on page 124.

The range of controllable devices is growing constantly. The manufacturers of this equipment can provide specific information on installation and control.

Warning!
Refer to the device documentation when installing and operating a device to be controlled. This contains important safety instructions and information about permitted uses.

Note
A video connection is necessary to transmit transparent data.

Network

You can connect the VideoJet 8008 to a 10/100/1000 Base-T network. Use a standard UTP Category 5 cable with RJ45 connectors for this.

– Connect the unit to the network using the **10/100/1000 Base-T** jack.

Alarm inputs

The VideoJet 8008 has ten alarm inputs on the orange terminal block. The alarm inputs are used to connect to external alarm devices, such as door contacts or sensors. With the appropriate configuration, an alarm sensor can, for example, trigger an automatic connection between the VideoJet 8008 and a remote location.

A voltage free make contact or switch can be used as an actuator. Information about the terminal assignment can be found on page 125.

Note
If possible, use a bounce-free contact system as the actuator.

– Connect the lines to the appropriate terminals on the orange terminal block and check that the connection is secure.

Turning on/off

Mains connection

A mains cable with connector is supplied with the VideoJet 8008 package. The VideoJet 8008 does not have a power switch. Once you have connected the unit to the power supply and it has booted, it is ready to use.

Warning!
Use suitable equipment where necessary to ensure that the mains supply is free of interference such as voltage surges, spikes or voltage drops.

Warning!
Connect the VideoJet 8008 to the mains supply only after everything else has been hooked up.

– Plug the connector on the mains cable into the **Power** socket.

– Connect the mains cable to a fused mains socket. The green **Power** LED on the front panel of the VideoJet 8008 lights up. After the boot process, as soon as the text **VideoJet 8008** appears in the display the unit is ready to use.

If the network connection has been made correctly, the green LED for the RJ45 jack **10/100/1000 MBit Base-T** on the rear panel of the unit should be lit. The flashing orange LED indicates data traffic on the network.

Setup using a terminal program

Data terminal

You can connect a data terminal to the VideoJet 8008 for setup and local control. The data terminal consists of a computer with terminal software. Use the configuration cable included in the package for this connection.

HyperTerminal, a communications accessory included with Microsoft Windows, can be used as the terminal program.

Note
Information on installing and using HyperTerminal can be found in the user guides or online help for MS Windows.

– Before using the terminal program, disconnect the VideoJet 8008 from the data network.

– Connect the **RS232/485** RJ45 connector on the VideoJet 8008 to an available serial port on the computer.

Configuring the terminal

To establish communication between the terminal program and the VideoJet 8008, the transmission parameters must be correctly defined. The following values should be set in the terminal program:

- 19,200 Bit/s
- 8 data bits
- No parity check
- 1 stop bit
- No protocol

Command entry

After the connection has been established, you must log on to the VideoJet 8008. You can then access the main menu. You can call up additional submenus and functions using the on-screen commands.

– If necessary, turn off the local echo so that entered values are not repeated on the display.

– Enter only one command at a time.

– After entering a value (such as an IP address), re-check the entry before pressing the ENTER key to transfer the values to the VideoJet 8008.

Assigning an IP address

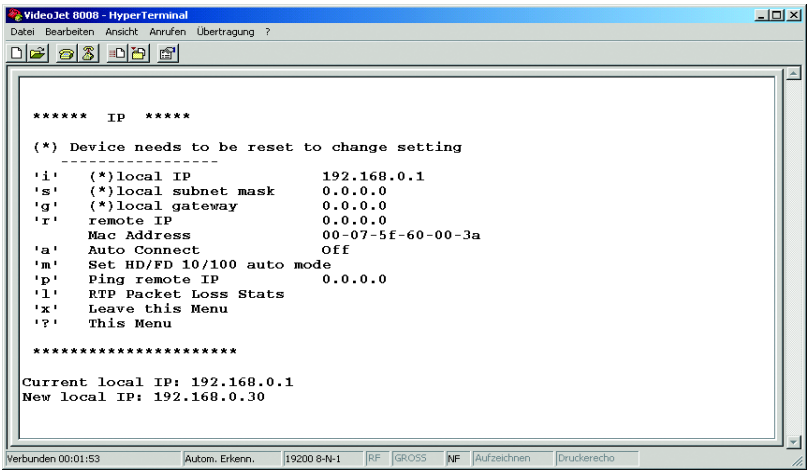
To operate the VideoJet 8008 in your network, a valid IP address for the network must be assigned.

The following default address has been pre-set at the factory: **192.168.0.1**

– Start up a terminal program such as HyperTerminal.

– First enter `?` and then `service` as the user name. The main menu will be displayed.

– Enter the command `i` to open the IP menu.



– Enter `i` again. The current IP address will be displayed, and you will be requested to enter a new IP address.

– Enter the desired IP address and press Enter. The new IP address will be shown.

– If necessary, enter the command `s` and a new subnet mask.

Note
The new IP address and a new subnet mask or gateway address will only be valid after restarting.

Restart

Briefly disconnect the power supply to the VideoJet 8008 (remove connector and re-connect after a few seconds).

Additional parameters

Using the terminal program, you can check other basic parameters and modify them where necessary. Use the on-screen commands displayed in the various submenus to do this.

5 Configuration using a Web Browser

Connecting

The integrated HTTP server allows the unit to be configured over the network with a web browser. This option is significantly more comprehensive and convenient than configuration using a terminal program and also offers you the option of displaying live video images.

Note
Make sure the graphics card is set to 16 or 32 bit colour depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Instructions for using the web browser can be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (Intranet or Internet)

Note
You should also take note of the information in the **System requirements** datasheet on the product CD supplied.

Install MPEG ActiveX

Note
In order to be able to play back live video images, an appropriate MPEG ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.

– Follow the on-screen instructions.

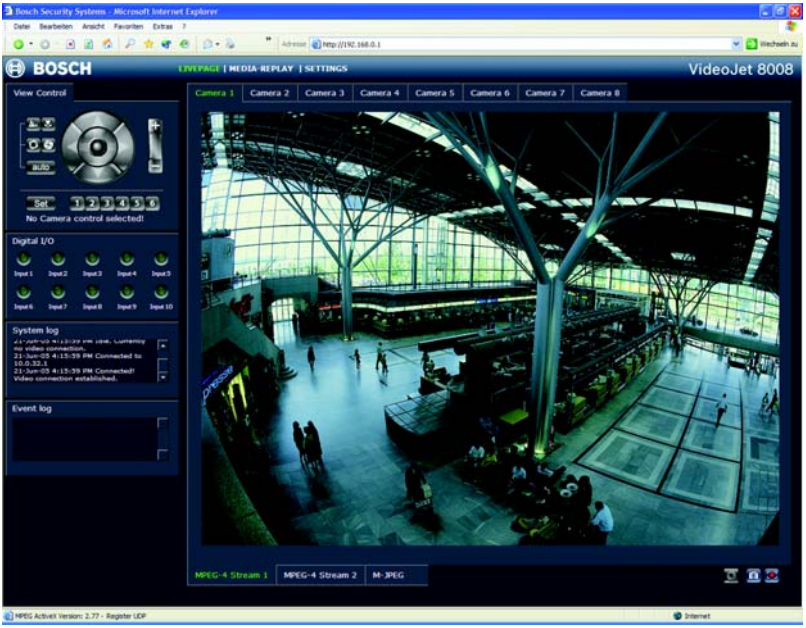
Establishing the connection

The VideoJet 8008 must be assigned a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.1**

– Start the web browser.

– Enter the IP address of the VideoJet 8008 as the URL. The connection will be established and, after a short time, the **LIVEPAGE** with the video image will appear.



Note

If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the device and network configuration.

Password protection in VideoJet 8008

If the VideoJet 8008 is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear when you attempt to access protected areas.

Note
A VideoJet 8008 offers you the option of limiting access across various authorization levels (see pages 46 and 60).

– Enter the user name and associated password in the corresponding text fields.

– Click **OK**. If the password is correct, the desired page is displayed.

Choosing the configuration mode

There are two options for configuring the VideoJet 8008 or checking the current setup:

- the unit overview or
- the configuration menu.

All settings are stored in the VideoJet 8008 memory, and they are preserved even if the power is interrupted.

Unit overview

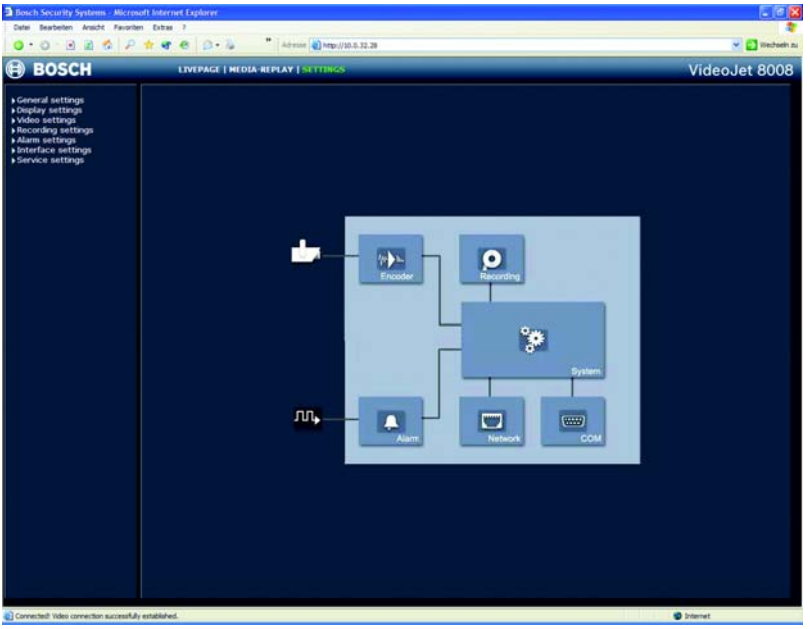
The unit overview shows the most important parameters summarized into six groups. This allows you to change the basic settings with just a few clicks and entries.

Configuration menu

The configuration menu is recommended for expert users or system administrators. All unit parameters can be accessed in this mode. Settings that influence the fundamental functionality of the unit (for example firmware updates) can only be made using the configuration menu.

Beginning configuration

Click on the **SETTINGS** link in the upper section of the **LIVEPAGE** window. A new page containing the configuration menu (see **Configuration menu**, page 58) and the unit overview (see **Unit overview**, page 31) is opened.



Unit overview

The unit overview gives you a graphical overview of the individual areas of the configuration. The individual configuration parameters are grouped and displayed in separate windows. You can access the individual areas directly.

– Click one of the group graphics. A new window will open.

– Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.

– Click on the **SETTINGS** link at the top of the window to close the window without saving the changes made.

Making changes

After making changes in a window, click the **Set** button to send the new settings to the unit and save them there.

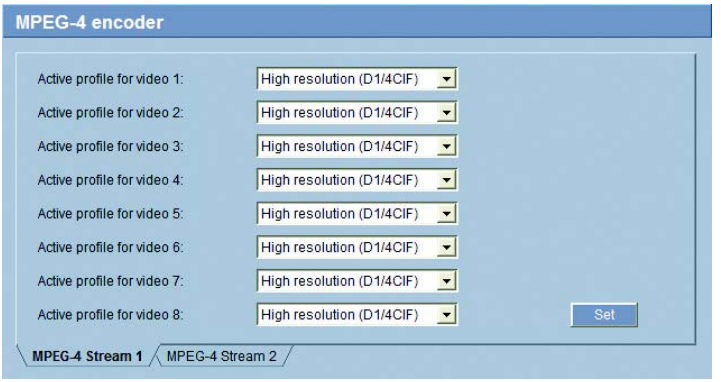
Warning!
Save the changes made in each window by clicking **Set**. Clicking the **Set** button always saves only the settings in the current window.

A description is given below of the individual windows that can be accessed using the graphical symbols in the overview.

Encoder settings

For encoding the video signal, you can select two profiles for each camera and change the presets for the profiles.

Selecting a profile



You can adapt the MPEG 4 data transmission to the operating environment (for example network structure, bandwidth, data structures). The VideoJet 8008 provides Dual Streaming for each of the eight encoders. The advantage of this is that each encoder can simultaneously generate two data streams with different compression settings, for example for transmission and local storage.

Note

The settings must be made individually for each camera input and each stream. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Pre-programmed profiles are available, which each give priority to different perspectives.

- Profile 1: **Low bandwidth (CIF)**
  High quality for low bandwidth connections,
  resolution 352 × 288/240 pixels
- Profile 2: **Low delay (1/2 D1)**
  High quality with low delay,
  resolution 352 × 576/480 pixels

- Profile 3: **High resolution (D1/4CIF)**
  High resolution for high bandwidth connections,
  resolution 704 × 576/480 pixels
- Profile 4: **DSL**
  For DSL connections at 500 kBit/s,
  resolution 352 x 288/240 pixels
- Profile 5: **ISDN (2B)**
  For ISDN connections via two B channels,
  resolution 352 x 288/240 pixels
- Profile 6: **ISDN (1B)**
  For ISDN connections via one B channel,
  resolution 352 x 288/240 pixels
- Profile 7: **Modem**
  For analog modem connections at 20 kBit/s,
  resolution 352 x 288/240 pixels
- Profile 8: **GSM**
  For GSM connections at 9,600 baud,
  resolution 176 x 144/120 pixels

Active profile for encoder 1 … Active profile for encoder 8:

Here you can select the desired profile for each of the two streams.

– Click on a tab to select the associated stream.

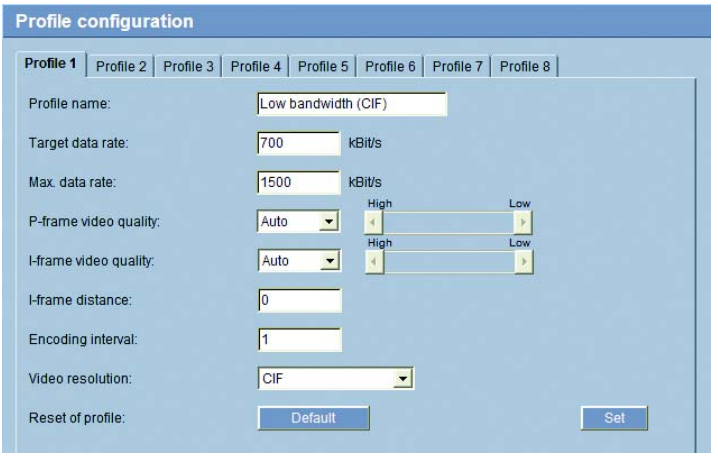
– Select the desired setting from the list.

Note

For alarm connections and automatic connections, always Stream 2 is transmitted. Take this into account when assigning the profile.

Stream 2 also is the stream used for local recording. While recording is in progress the settings selected as **Recording profile** are active for Stream 2 (see page 43).

Changing profiles



You can change the name and individual parameter values within a profile. You can switch between profiles by clicking the associated tabs.

Warning!

The profiles are rather complex. They include a number of parameters that interact with one another. Therefore it is generally best to use the default profiles. The profiles should only be changed if you are completely familiar with all the configuration options.

Note

The parameters as a group constitute a profile and are dependent on one another. If you enter a setting outside the allowed range for the parameter, the nearest valid value will be substituted when the settings are saved.

Profile name:

You can enter a new name for the profile here. The name is then displayed in the lists of available profiles in the MPEG-4 encoder field.

Target data rate:

To optimize utilization of the bandwidth in your network, you can limit the data rate for the VideoJet 8008. The target data rate should be set according to the desired picture quality for typical scenes with no excessive motion.

For complex images or frequent changes of image content due to frequent movements, this limit can temporarily be exceeded as far as the value you enter in the **Max. data rate:** field.

Max. data rate:

This maximum data rate is not exceeded under any circumstances. Depending on the video quality settings for the I- and P-frames this can result in the skipping of individual images.

The value entered here should be at least 10% higher than the value entered in the **Target data rate** field.

P-frame video quality:

This setting allows you to adjust the image quality of the P-frames depending on the movement within the image. The **Auto** option automatically adjusts to the optimum relationship between movement and image definition (focus). Selecting **Manual** allows you to set a value between 4 and 31 on a slide bar. The value **4** represents the best quality with, if necessary, a lower frame refresh rate depending on the settings for the maximum data rate. A value of **31** results in a very high refresh rate and lower image quality.

I-frame video quality:

This setting allows you to adjust the image quality of the I-frames. The **Auto** option automatically adjusts the quality to the settings for the P-frame video quality. Selecting **Manual** allows you to set a value between 4 and 31 on a slide bar. The value **4** represents the best quality with, if necessary, a lower frame refresh rate depending on the settings for the maximum data rate. A value of **31** results in a very high refresh rate and lower image quality.

I-frame distance:

This parameter determines the number of inter-coded frames between two I-frames.

Encoding interval:

The figure selected here determines the interval at which images are encoded and transmitted. For example, entering **4** means that only every fourth image is encoded, the following three images are skipped – this can be particularly advantageous with low bandwidths.

Video resolution:

Here, you can select the desired resolution for the MPEG-4 video image. The following resolutions are available:

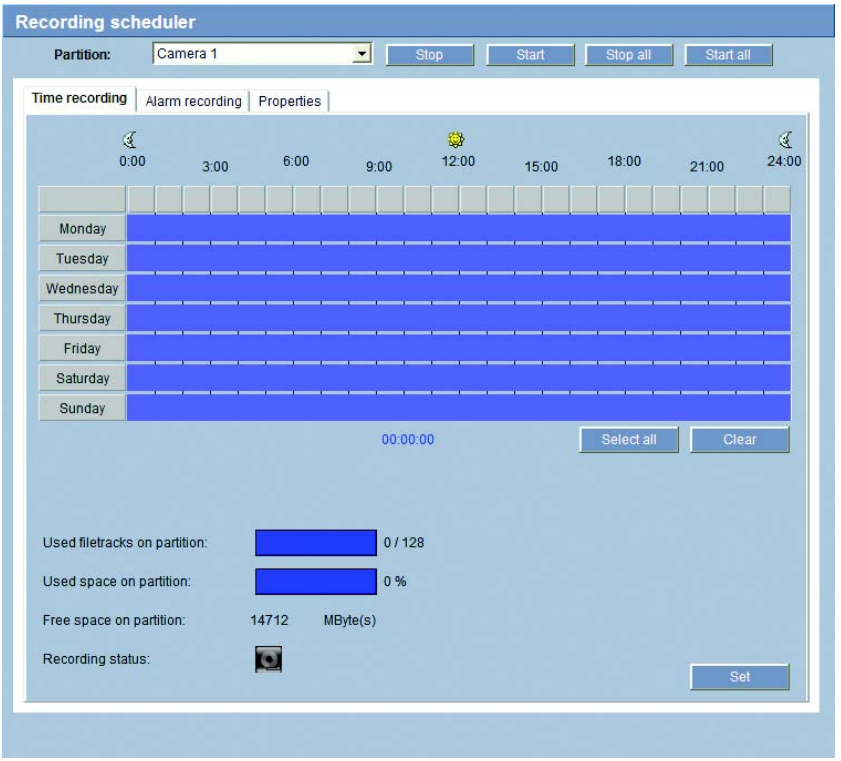
- **QCIF** 176 × 144/120 pixels
- **CIF** 352 × 288/240 pixels
- **1/2 D1** 352 × 576/480 pixels
- **2CIF** 704 × 288/240 pixels
- **D1/4CIF** 704 × 576/480 pixels

Reset of profile:

Click **Default** to return the profile to the factory default value.

Recording settings

Here you set the parameters for recording on the local hard disk. Recording may be done continuously or only in the event of an alarm.



Partition:

Select the partition in which you want to record. A separate partition is used for recording of each video input.

Activating a partition for recording

After configuring a partition, it can be activated for recording by clicking the **Start** button.

Once started, the Time recording and Alarm recording pages and the settings for the active partition are shown in gray and the configuration cannot be changed.

The icon at the bottom of the pages indicates recording activity on this partition. The icon is animated while recording is in progress.

Recording activity can be stopped at any time, and one, several or all partitions can be deactivated.

– Click **Start** to activate the currently selected partition for recording.

– Click **Start all** to activate all partitions set up for recording.

– Click **Stop** to deactivate the currently selected partition for recording. Recordings in progress are interrupted and the configuration can be changed.

– Click **Stop all** to deactivate all partitions set up for recording. Recordings in progress are interrupted and the configuration can be changed.

Time recording

Here you can specify the times during which continuous recording to the hard disk will take place.

For each partition and thus for each camera input, there are separate selection fields for each day of the week. You can select 16 individual recording periods for each day of the week.

Note
If a period has already been selected for alarm recording, you cannot select this period for the time recording (see **Alarm recording**, page 40).

– Left-click on the point in the schedule at which recording should start and hold down the mouse button.

– Now drag the selected field to the desired end time for the recording and release the mouse button.

– Right-click a selected time segment to delete it.

– Click **Select all** to select all time segments.

– Click **Delete all** to delete all selected periods.

Used file tracks on partition:

Up to 128 recording tracks are created automatically on a partition. Each new recording is assigned a separate track.

Selecting the **Linear mode** option (see page 43) means that no more new recordings are made after the 128 tracks have been used. Old recordings must be deleted before the tracks can be re-used. Selecting **Ring mode** means that the 129th recording will be written on the first track, so that the oldest recording is always overwritten by the newest.

Used space on partition:

Indicates the percentage of the partition that is already used.

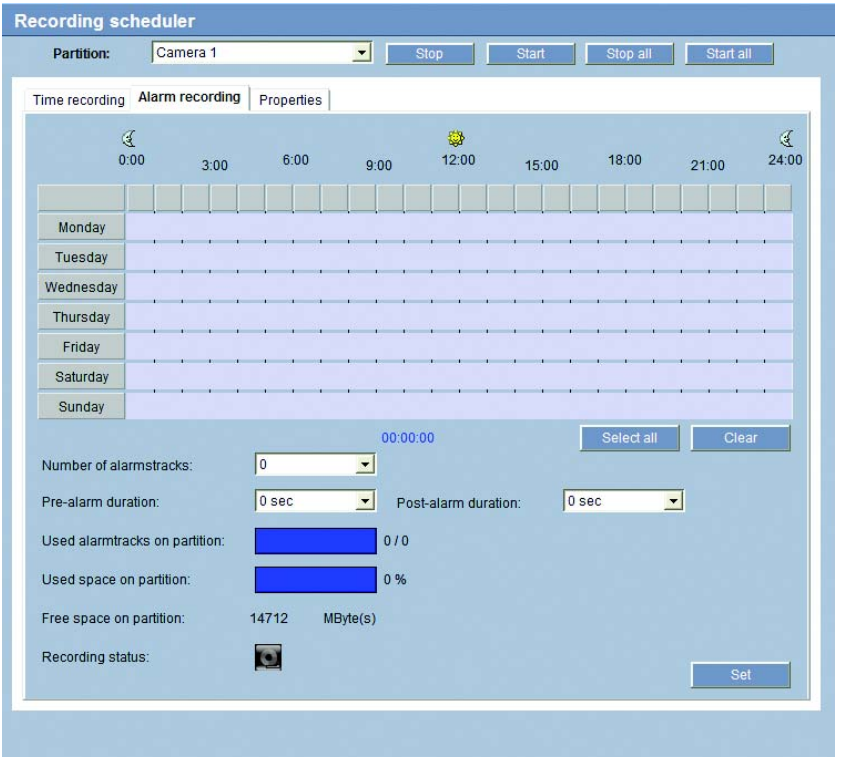
Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

Alarm recording



Here you can define the times when recordings are to be made from the selected camera to the hard disk in the event of an alarm.

As for time recording, separate selection fields are available for each partition and thus for each camera input. You can select up to 16 separate periods for each day of the week. An alarm recording takes place only during the selected periods.

Note
If a time period has already been selected for time recording, you can no longer select it for alarm recording (see **Time recording**, page 38).

Warning!
For alarm recordings, alarm tracks must be set up on the desired partition (see **Number of alarm tracks**, page 41).

The VideoJet 8008 uses a special recording mode for alarm recording to optimize the use of the memory capacity. As soon as a time slot for alarm recording begins, continuous recording starts on a segment the size of a complete alarm sequence (pre- and post-alarm).

This segment on the partition works like a ring buffer and is overwritten again and again until an alarm is actually triggered. After that, recording on this segment will go on for the time predefined for post-alarm recording, and then a new segment will be used in the same way.

For this reason the recorded alarm file is always saved at its full length to the partition and the recording space required for each alarm recording can be calculated easily.

Number of alarm tracks:

Here you set the number of alarm tracks on the partition. One alarm event can be recorded on each alarm track. The specified number of alarms can be recorded and archived accordingly. A partition can contain a maximum of 128 alarm recordings.

If the **Ring mode** option is set for the partition (see page 43), the predefined number of the latest alarm recordings will be stored. If the **Linear mode** option is set, recording will stop as soon as all the alarm tracks have been written.

Pre-alarm duration:

Select the period to be covered by the pre-alarm recording.

Alarm recording duration:

Select the duration of the alarm recording.

Alarm tracks on partition:

Indicates how many of the total alarm tracks created are currently used.

Used space on partition:

Indicates the percentage of the partition that is already used.

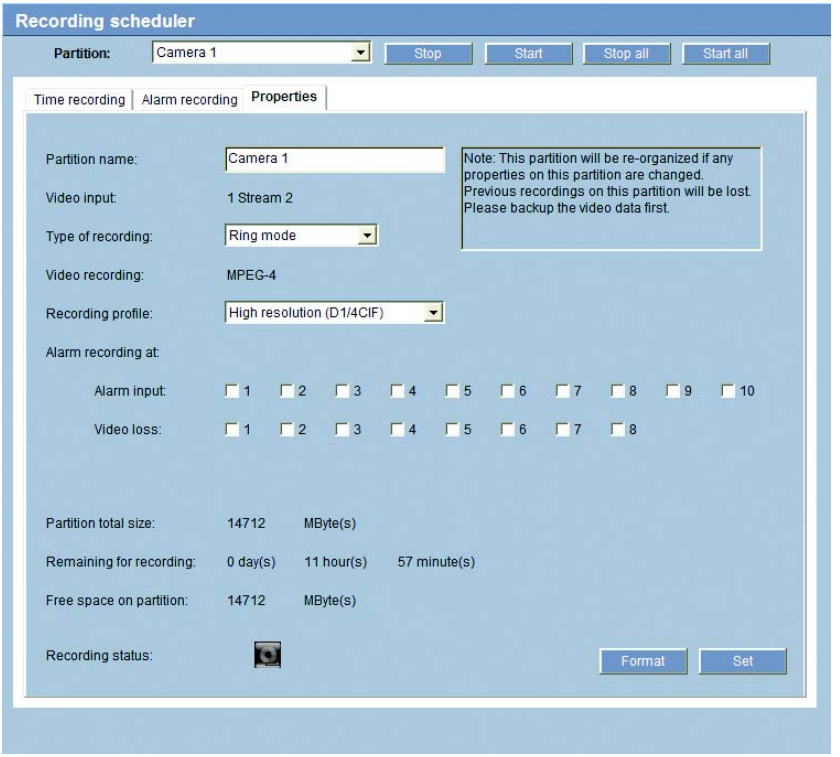
Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

Properties



You can view the current parameters for each selected partition and change them as required in the recording scheduler. You can also activate the alarms that you want to trigger recording. You can also set the profile for the recording here.

Warning!
Making changes to a partition causes the affected partition to be reorganized and all sequences stored on it to be lost.

Changes to the size (total space in partition) will result in reorganization of the entire hard disk and the loss of all saved data.

You should therefore back up all important sequences to the computer's hard drive before making such changes.

Partition name:

You can enter a new name for the partition here.

Video input:

Shows information about the number of the associated video input. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Type of recording:

Select the desired type of recording here.

In **Ring mode**, recording will continue indefinitely. When the maximum hard disk space has been reached, the oldest recordings will be overwritten automatically.

In **Linear mode**, recording will continue until all the disk space has been used. Then recording will be stopped until some old recordings are deleted to provide free space.

Video recording:

The recording format is displayed here for your information.

Recording profile:

For recording always Stream 2 is used. Select here the profile desired to be active while recording is in progress. You can view and modify the parameters for the profiles (see **Encoder settings** from page 32).

Note
The recording profile can be different from the standard settings **Active profile** for Stream 2 and is only used while recording is in progress.

Alarm recording at:

Here you can select the alarm sensors that should trigger an alarm. The video alarm for one camera can also be used to trigger alarm recording by another camera.

Note
The alarm sensors must be activated for them to be able to trigger recording: You can activate the alarm inputs and video alarms on the **Alarm settings** page (see page 49).

– Click in the checkbox for the alarm sensor you want to trigger a recording. The selected checkbox is marked.

Note
The numbering of the checkboxes for the alarm inputs corresponds to the labeling of the alarm inputs on the rear panel of the unit. For the video alarm, the numbering corresponds to the labeling of the video inputs.

Partition total size:

Indicates how much memory space the partition occupies on the hard disk.

Remaining for recording:

Indicates the maximum time remaining for recording. It is automatically updated after the parameters are changed.

Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

Format

You can delete all recordings on a partition at any time.

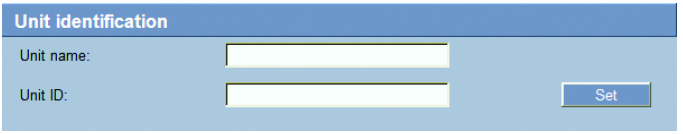
Warning!
Before deleting recordings, check them and back up any important sequences to your computer's hard drive.

– Click **Format** to delete all recordings on the partition currently selected.

System settings

Various basic data for the VideoJet 8008 can be set or selected here.

Unit identification



Unit name:

The unit can be assigned a name to assist in identifying it. The name simplifies the management of multiple devices in more extensive systems, for example using the VIDOS software.

Note

The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VideoJet 8008 should be assigned a unique identifier that can be entered here as an additional means of identification.

Password

A VideoJet 8008 is generally protected by a password to prevent unauthorized access to the unit. You can use various authorization levels to limit the scope of a user's access.

Note

Proper password protection is only guaranteed if all higher authorization levels are also protected with a password. For example, if a **live** password is assigned, a **service** and a **user** password should also be set. When assigning passwords, you should always start from the highest authorization level.

User name:

The VideoJet 8008 recognizes three user names: **service**, **user** and **live**, which correspond to different authorization levels.

The user name **service** represents the highest authorization level. After entering the corresponding password, you can use it to access all the functions of the VideoJet 8008 and change all configuration settings.

The user name **user** represents the middle authorization level. You can use it to operate the unit and also to control cameras, but you cannot change the configuration.

The user name **live** represents the lowest authorization level. It can only be used to view the live video image and switch between the different live image displays.

Password:

You can define and change a separate password for each user name if you are logged on as **Service** or if the unit is not protected by a password.

Enter the password for the selected user name here.

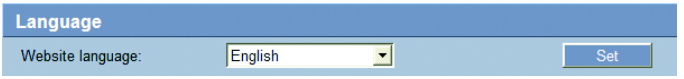
Confirm password:

Re-enter the new password to rule out typing errors.

Note

The new password is then saved by clicking the **Set** button. You should therefore click the **Set** button immediately after entering and confirming the password, even if you also want to assign a password to another user name.

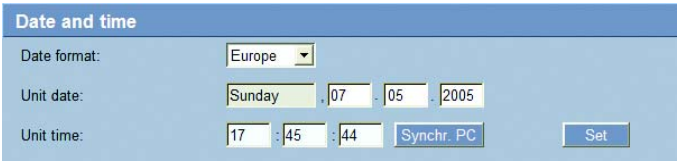
Language



Website language:

Select the language for the user interface here.

Date and time



Date format:

Choose the desired date format here
(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

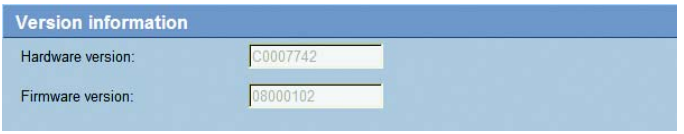
Unit date and **time:**

If there are a number of devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to carry out correct identification and evaluation of recordings occurring at the same time if all devices are operating on the same time.

– Enter the current date. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of the week. This is added automatically.

– Enter the current time or click **Synchr. PC** to apply the system time from your computer to the VideoJet 8008.

Version information



The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

Hardware version:

The hardware version number of the VideoJet 8008 is displayed.

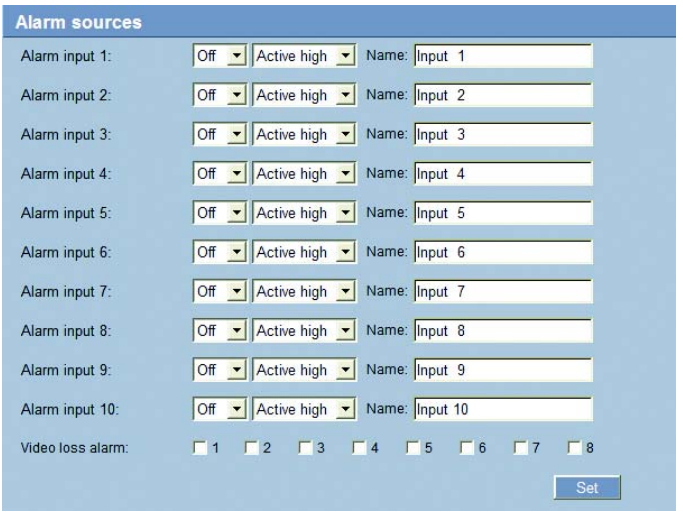
Firmware version:

The firmware version number of the VideoJet 8008 is displayed.

Alarm settings

Here, you can make the settings for the alarm sources and alarm connections.

Alarm sources


Alarm sources
Alarm input 1: Off Active high Name: Input 1
Alarm input 2: Off Active high Name: Input 2
Alarm input 3: Off Active high Name: Input 3
Alarm input 4: Off Active high Name: Input 4
Alarm input 5: Off Active high Name: Input 5
Alarm input 6: Off Active high Name: Input 6
Alarm input 7: Off Active high Name: Input 7
Alarm input 8: Off Active high Name: Input 8
Alarm input 9: Off Active high Name: Input 9
Alarm input 10: Off Active high Name: Input 10
Video loss alarm: 1 2 3 4 5 6 7 8
Set

You can configure the possible alarm triggers for the VideoJet 8008 (for example the alarm inputs).

Alarm input 1 … Alarm input 10:

Select the option **On** in order to activate the alarm via the corresponding external alarm sensor. Otherwise, select **Off**.

Select **Active high** if the alarm is to be triggered by closing the contact. Select **Active low** if the alarm is to be triggered by opening the contact.

Name:

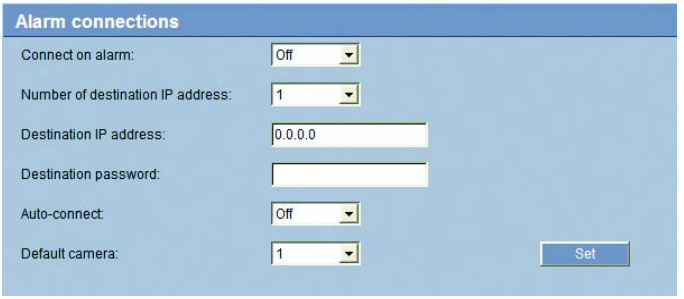
You can enter a name for each alarm input, which is then displayed below the icon for the alarm input on the **LIVEPAGE** during configuration (see **Livepage configuration**, page 94).

Video loss alarm:

Click the check box if you want interruption of the video signal to trigger an alarm. A selected video input is marked with a tick.

Note
The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Alarm connections



You can select the response of the VideoJet 8008 in case of an alarm. In case of an alarm, the VideoJet 8008 can automatically establish a connection to a predefined IP address. You can enter up to ten IP addresses which will be selected in order by the unit in case of an alarm until a connection is established. You can also choose which camera image should automatically be displayed first on the receiver in case of an alarm.

Connect on alarm:

Select **On** so that the VideoJet 8008 automatically establishes a connection to a pre-defined IP address in the event of an alarm.

Note
For alarm connections, always Stream 2 is transmitted. Take this into account when assigning the profile (see page 32).

Number of destination IP address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

For each number, enter the corresponding IP address for the desired remote location.

Destination password:

If the remote location is password protected, enter the password here.

Auto-connect:

Select **On** if an active connection should be re-established automatically to one of the previously specified IP addresses after each restart, connection breakdown or network failure.

Note
For automatic connections, always Stream 2 is transmitted. Take this into account when assigning the profile (see page 32).

Default camera:

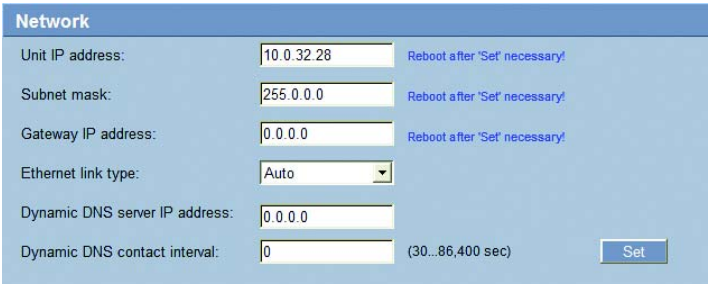
Here you can select the camera whose image will automatically be displayed first to the receiver after the alarm connection has been established. Depending on the system configuration, the receiver can then also select the other cameras.

Note
The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Network settings

Here, you can specify network addresses and configure multiple connections.

Network



The settings on this page are used to integrate the unit into an existing network.

Warning!
Changes to the IP address, subnet mask or gateway address are transferred to the unit by clicking **Set**. However, they only take effect after the unit is restarted.

– Click **Set** after entering a new IP address.

– To do this, enter the old IP address followed by `/reset` (for instance `192.168.0.80/reset`) in the address bar of your web browser. The VideoJet 8008 will be restarted, after which it can only be accessed at the new IP address.

IP address:

Enter the desired IP address for the VideoJet 8008 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the appropriate subnet mask for the set IP address here.

Gateway address:

If you want the unit to establish a connection to a remote location in a different subnet, enter the IP address of the gateway here. Otherwise, this field can remain empty (0.0.0.0).

Ethernet link type:

If the VideoJet 8008 is connected to the network via a switch, both devices must have the same preset network connection type. If necessary, ask your network administrator what value the associated switch is set to.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s for either full or half-duplex mode (**FD** or **HD**) or to 1 GBit/s FD.

Warning!
Malfunctions (for example image faults) can occur if the capacity of the network is not sufficient for transmission of the maximum data rate generated by the VideoJet 8008.

Dyn. DNS server IP address:

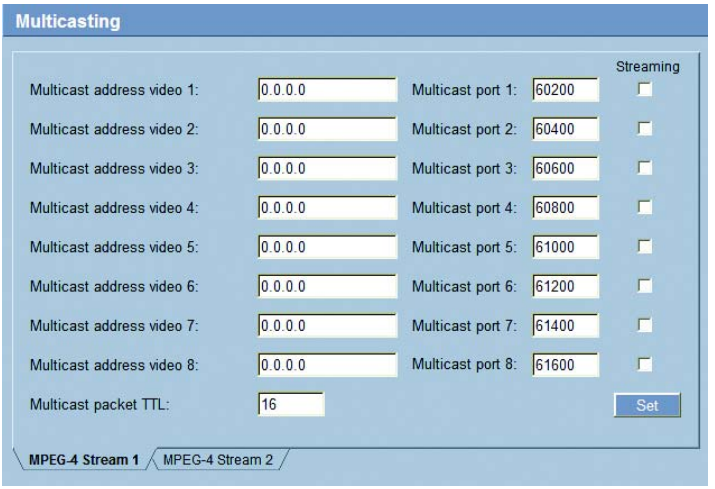
When operating a unit on the Internet, an address pool of available dynamic IT addresses is used for greater efficiency. This means that the unit is assigned a new IP address each time a connection is made and this address varies. Access is easier if the unit is listed on a DNS server. It will contact the server at regular intervals and register its device name and IP address. To connect to the VideoJet 8008 via the Internet, it is enough to enter the corresponding unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

The DNS server from **videotec.info** can be used. The associated IP address is 195.145.107.78. The VideoJet 8008 contacts this server automatically if the desired refresh interval is entered for the next parameter. For example, if the name of the VideoJet 8008 is **MyVideoJet**, in future it is sufficient to enter **MyVideoJet.videotec.info** in the browser as the URL to establish a connection.

Dyn. DNS contact interval:

Enter the desired update interval in seconds.

Multicasting


Multicasting
Streaming
Multicast address video 1: 0.0.0.0 Multicast port 1: 60200
Multicast address video 2: 0.0.0.0 Multicast port 2: 60400
Multicast address video 3: 0.0.0.0 Multicast port 3: 60600
Multicast address video 4: 0.0.0.0 Multicast port 4: 60800
Multicast address video 5: 0.0.0.0 Multicast port 5: 61000
Multicast address video 6: 0.0.0.0 Multicast port 6: 61200
Multicast address video 7: 0.0.0.0 Multicast port 7: 61400
Multicast address video 8: 0.0.0.0 Multicast port 8: 61600
Multicast packet TTL: 16
Set
MPEG-4 Stream 1
MPEG-4 Stream 2

In addition to a 1:1 connection between an encoder and a single receiver (unicast), the VideoJet 8008 can enable multiple receivers to receive the video signal from an encoder simultaneously. This is either done by duplicating the data stream in the unit and then distributing it to multiple receivers (multi-unicast) or by distributing an individual data stream in the network itself to multiple receivers in a defined group (multicast). A dedicated multicast address and port can be specified for each stream on each of the eight encoders. You can switch between streams by clicking the associated tabs.

Note

The prerequisite for multicast operation is a multicast-capable network that uses the UDP and IGMP protocols. Other group membership protocols are not supported. The TCP protocol does not support multicast connections.

A special IP address (class D address) must be configured for multicast operation in a multicast-enabled network.

The network must support group IP addresses and the Internet Group Management Protocol (IGMP V2). The address range is from 224.0.1.0 to 239.255.255.255.

The multicast address can be the same for multiple streams. However, it is then necessary to use a different port in each case so that multiple data streams are not sent simultaneously using the same port and multicast address.

Note

The settings must be made individually for each video input and each stream. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Multicast address Video 1… Multicast address Video 8:

Enter a valid multicast address for each stream from the relevant encoder to be operated in multicast mode (duplication of the data streams in the network).

With the setting **0.0.0.0** the encoder for the relevant stream operates in multi-unicast mode (copying of data streams in unit). The VideoJet 8008 supports multi-unicast connections for up to five simultaneously connected receivers.

Note

Duplication of data places a heavy demand on the CPU and can lead to impairment of the image quality under certain circumstances.

Multicast port 1 ... Multicast port 8:

If there are simultaneous data streams at the same multicast address, you must assign different ports to each data stream.

Enter the port address for the relevant stream here.

Streaming:

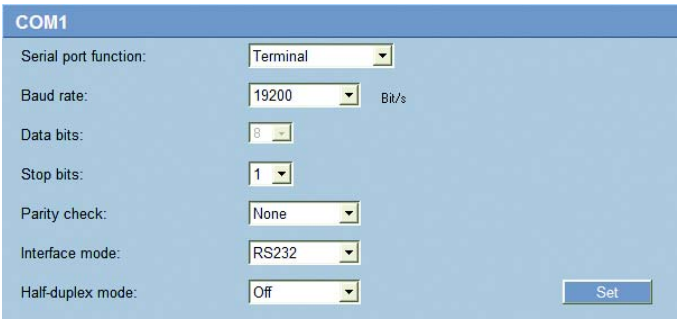
Click in the checkbox to activate multicast streaming mode for the relevant stream. The selected checkbox is marked.

Multicast packet TTL:

A value can be entered to specify how long the multicast data packets are active on the network. If multicast is to be run via a router the value must be greater than 1.

COM1 settings

The serial interface port **RS232/485** can be configured for specific requirements.



Note

If the VideoJet 8008 is working in multicast mode (see page 54), the first remote location to establish a video connection to the unit is also assigned the transparent data connection. However after about 15 seconds of inactivity, the data connection is automatically terminated and another remote location can exchange transparent data with the unit.

Serial port function:

Select a controllable device from the list. If you want to use the interface to transmit transparent data, select **Transparent**. To operate the unit with a terminal, choose **Terminal**.

Note

After selecting a device, the remaining parameters in the window are set automatically and should not be changed.

Baud rate:

Select the value for the transmission rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

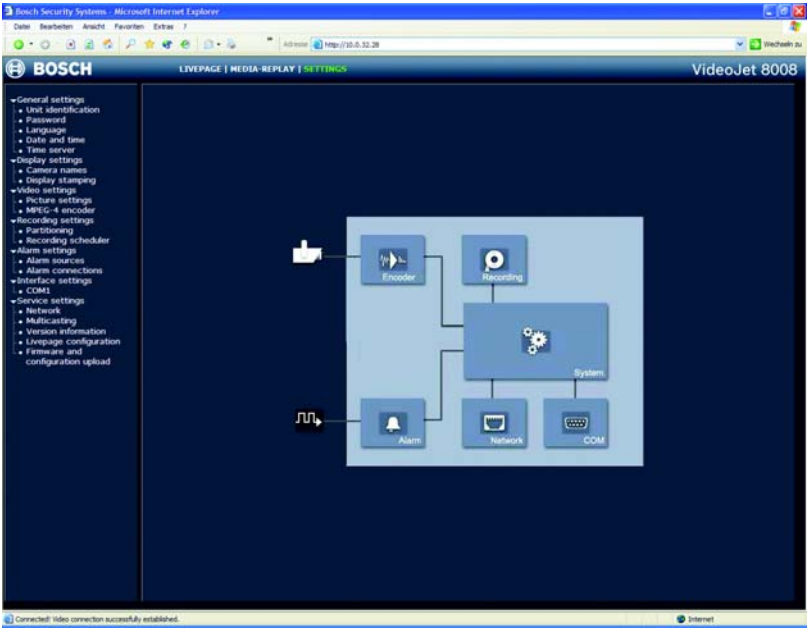
Configuration menu

The configuration menu allows all parameters of the VideoJet 8008 to be configured. You can view the current settings by opening one of the configuration pages. The settings can be changed by entering new values or by selecting a predefined value in a list field.

Navigation

You will see the configuration menu in addition to the unit overview after clicking on the **SETTINGS** link on the **LIVEPAGE**.

– Click on one of the menu options on the left of the window. The associated sub-menu is opened.



– Click one of the links in the sub-menu. The corresponding page will be opened.

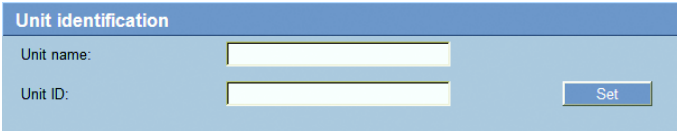
Making changes

Each configuration page shows the current settings. The settings can be changed by entering new values or by selecting a predefined value in a list field.

– After each change, click **Set** to save the change.

Warning!
Save each change with the associated **Set** button. Clicking **Set** always saves only the settings in the particular field. Changes in any other fields are ignored.

Unit identification



The unit can be assigned a name and an ID to facilitate identification. The name simplifies the management of multiple devices in more extensive systems, for example using the VIDOS software.

Unit name:

Enter a name for the unit here.

Note
The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VideoJet 8008 should be assigned a unique identifier that can be entered here as an additional means of identification.

Password

A VideoJet 8008 is generally protected by a password to prevent unauthorized access to the unit. You can use various authorization levels to limit the scope of a user's access.

Note

Proper password protection is only guaranteed if all higher authorization levels are also protected with a password. For example, if a **live** password is assigned, a **service** and a **user** password should also be set. When assigning passwords, you should always start from the highest authorization level.

User name:

The VideoJet 8008 recognizes three user names: **service**, **user** and **live**, which correspond to different authorization levels.

The user name **service** represents the highest authorisation level. After entering the corresponding password, you can use it to access all the functions of the unit and change all configuration settings.

The user name **user** represents the middle authorization level. You can use it to operate the unit and also to control cameras, but you cannot change the configuration.

The user name **live** represents the lowest authorization level. It can only be used to view the live video image and switch between the different live image displays.

Password:

You can define and change a separate password for each user name if you are logged on as **Service** or if the unit is not protected by a password.

Enter the password for the selected user name here.

Confirm password:

Re-enter the new password to rule out typing errors.

Note

The new password is then saved by clicking the **Set** button. You should therefore click the **Set** button immediately after entering and confirming the password, even if you also want to assign a password to another user name.

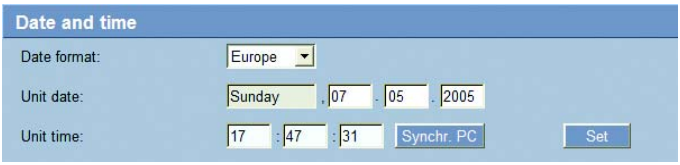
Language

The language for the user interface can be selected for easier use.

Website language:

Select the desired language here.

Date and time



If there are a number of devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to carry out correct identification and evaluation of recordings occurring at the same time if all devices are operating on the same time.

Date format:

Choose the desired date format here
(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

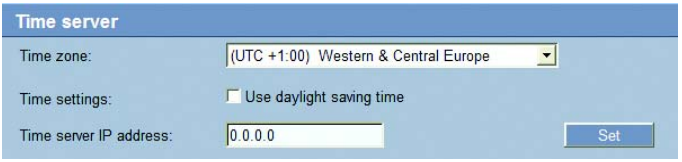
Unit date:

Enter the current date. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of the week. This is added automatically.

Unit time:

Enter the current time here or click **Synchr. PC** to apply the system time from your computer to the VideoJet 8008.

Time server



The VideoJet 8008 can receive the time signal from a time server using the time server protocol (RFC 868) and then use it to set the internal clock. The device calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone in which the system is located.

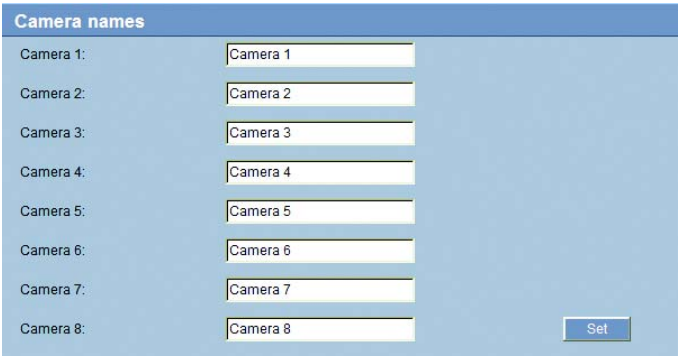
Time setting:

Select this during daylight savings time if the time change is to be taken into account. Deselect the checkbox when standard time has resumed.

Time server IP address:

Enter the IP address of a time server working with the RFC 868 protocol.

Camera names



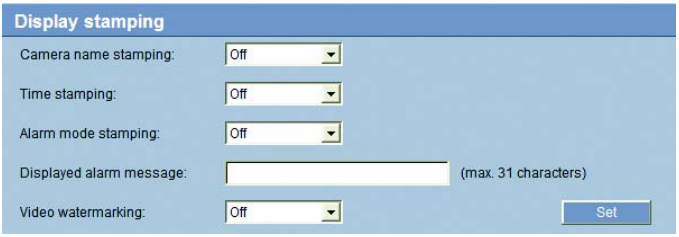
The camera name makes it easier to identify the remote camera location, in the event of an alarm for example. It will be displayed in the video screen if configured to do so (see page 64). Moreover, the camera name is used by VIDOS, the software for managing video surveillance systems, and makes it easier to identify the camera.

Camera 1 ... Camera 8:

Enter a unique and unambiguous name for the camera here.

Note
The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Display stamping



Various overlays or "stamps" in the video image provide important supplementary information. These overlays can be enabled individually and arranged on the image in a clear manner.

Note
The settings on this page apply to all camera inputs.

Camera name stamping:

This field sets the position of the camera name overlay. It can be displayed at the **Top**, at the **Bottom** or at a position of your choice using the option **Custom**. Or it can be set to **Off** if no overlay of this information is to be shown.

Time stamping:

This field sets the position of the time and date overlay. It can be displayed at the **Top** or at the **Bottom** of the image or you can define a position yourself via the HyperTerminal and activate it choosing the option **Custom**. Or it can be set to **Off** if no overlay of this information is to be shown.

Alarm mode stamping:

Choose **On** if a text message should be overlaid in the event of an alarm. It can be displayed at a position of your choice using the option **Custom**. Or it can be set to **Off** if no overlay of this information is to be shown.

– Select the desired position from the lists.

– If you have selected the option **Custom**, additional fields are displayed to specify the exact position (**Position (XY):**).

– In the **Position (XY):** fields enter the values for the desired position.

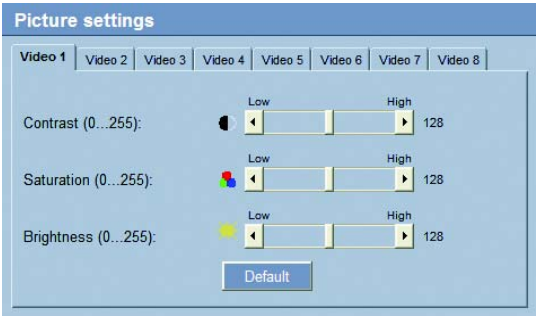
Displayed alarm message:

Enter the message to be displayed for an alarm. It can contain up to 31 characters.

Video watermarking:

Choose **On** if the video images transmitted are to be "watermarked". After activation, all images will be marked with a small green rectangle. A red rectangle indicates that the sequence (live or saved) has been manipulated.

Picture settings



You can set the video image of each camera to suit your requirements. The current video image is displayed in the small window next to the sliders as confirmation. The changes take effect immediately.

– First click on a tab to select the corresponding camera.

– Set the slide bar to the desired position.

– Click **Default** to reset all settings to their default values.

Contrast (0...255):

You can use this function to adapt the contrast of the video image to your working environment.

Saturation (0...255):

You can use this function to adjust the color saturation, in order to make the reproduction of colors on your monitor as realistic as possible.

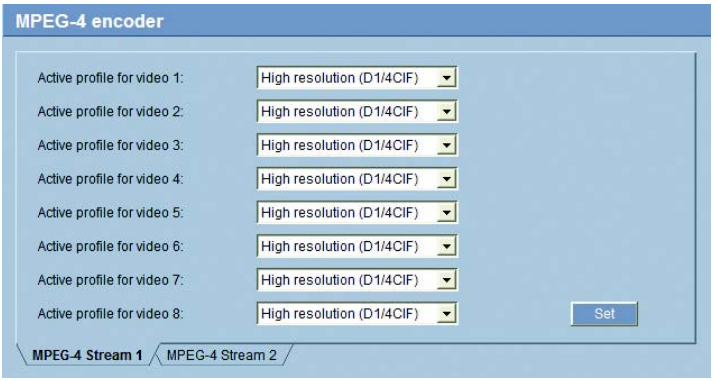
Brightness (0...255):

You can use this function to tailor the brightness of the video image to your working environment.

MPEG-4 encoder

For encoding the video signal, you can select two profiles for each camera and change the presets for the profiles.

Selecting a profile



You can adapt the MPEG 4 data transmission to the operating environment (for example network structure, bandwidth, data structures). The VideoJet 8008 provides Dual Streaming for each of the eight encoders. The advantage of this is that each encoder can simultaneously generate two data streams with different compression settings, for example for transmission and local storage.

Note

The settings must be made individually for each camera input and each stream. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Pre-programmed profiles are available, which each give priority to different perspectives.

- Profile 1: **Low bandwidth (CIF)**
  High quality for low bandwidth connections,
  resolution 352 × 288/240 pixels
- Profile 2: **Low delay (1/2 D1)**
  High quality with low delay,
  resolution 352 × 576/480 pixels
- Profile 3: **High resolution (D1/4CIF)**
  High resolution for high bandwidth connections,
  resolution 704 × 576/480 pixels

- Profile 4: **DSL**
  For DSL connections at 500 kBit/s,
  resolution 352 x 288/240 pixels
- Profile 5: **ISDN (2B)**
  For ISDN connections via two B channels,
  resolution 352 x 288/240 pixels
- Profile 6: **ISDN (1B)**
  For ISDN connections via one B channel,
  resolution 352 x 288/240 pixels
- Profile 7: **Modem**
  For analog modem connections at 20 kBit/s,
  resolution 352 x 288/240 pixels
- Profile 8: **GSM**
  For GSM connections at 9,600 baud,
  resolution 176 x 144/120 pixels

Active profile for encoder 1 … Active profile for encoder 8:

Here you can select the desired profile for each of the two streams.

– Click on a tab to select the associated stream.

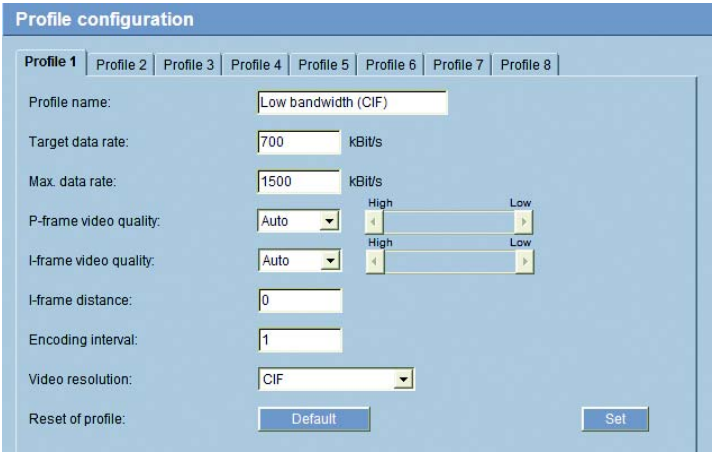
– Select the desired setting from the list.

Note

For alarm connections and automatic connections, always Stream 2 is transmitted. Take this into account when assigning the profile.

Stream 2 also is the stream used for local recording. While recording is in progress the settings selected as **Recording profile** are active for Stream 2 (see page 82).

Changing profiles



You can change the name and individual parameter values within a profile. You can switch between profiles by clicking the associated tabs.

Warning!

The profiles are rather complex. They include a number of parameters that interact with one another. Therefore it is generally best to use the default profiles. The profiles should only be changed if you are completely familiar with all the configuration options.

Note

The parameters as a group constitute a profile and are dependent on one another. If you enter a setting outside the allowed range for the parameter, the nearest valid value will be substituted when the settings are saved.

Profile name:

You can enter a new name for the profile here. The name is then displayed in the lists of available profiles in the MPEG-4 encoder field.

Target data rate:

To optimize utilization of the bandwidth in your network, you can limit the data rate for the VideoJet 8008. The target data rate should be set according to the desired picture quality for typical scenes with no excessive motion.

For complex images or frequent changes of image content due to frequent movements, this limit can temporarily be exceeded as far as the value you enter in the **Max. data rate:** field.

Max. data rate:

This maximum data rate is not exceeded under any circumstances. Depending on the video quality settings for the I- and P-frames this can result in the skipping of individual images.

The value entered here should be at least 10% higher than the value entered in the **Target data rate** field.

P-frame video quality:

This setting allows you to adjust the image quality of the P-frames depending on the movement within the image. The **Auto** option automatically adjusts to the optimum relationship between movement and image definition (focus). **Manual** allows you to set a value between 4 and 31 on a slide bar. The value **4** represents the best quality with, if necessary, a lower frame refresh rate depending on the settings for the maximum data rate. A value of **31** results in a very high refresh rate and lower image quality.

I-frame video quality:

This setting allows you to adjust the image quality of the I-frames. The **Auto** option automatically adjusts the quality of the P-frame video quality. **Manual** allows you to set a value between 4 and 31 on a slide bar. The value **4** represents the best quality with, if necessary, a lower frame refresh rate depending on the settings for the maximum data rate. A value of **31** results in a very high refresh rate and lower image quality.

I-frame distance:

This parameter determines the number of inter-coded frames between two I-frames.

Encoding interval:

The figure selected here determines the interval at which images are encoded and transmitted. For example, entering **4** means that only every fourth image is encoded, the following three images are skipped – this can be particularly advantageous with low bandwidths.

Video resolution:

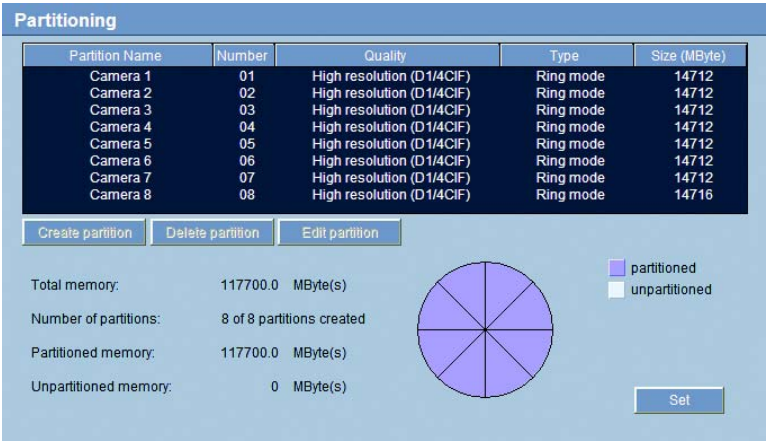
Here, you can select the desired resolution for the MPEG-4 video image. The following resolutions are available:

- **QCIF** 176 × 144/120 pixels
- **CIF** 352 × 288/240 pixels
- **1/2 D1** 352 × 576/480 pixels
- **2CIF** 704 × 288/240 pixels
- **D1/4CIF** 704 × 576/480 pixels

Reset of profile:

Click **Default** to return the profile to the factory default value.

Partitioning


Partitioning
Partition Name
Number
Quality
Type
Size (MByte)
Camera 1 01 High resolution (D1/4CIF) Ring mode 14712
Camera 2 02 High resolution (D1/4CIF) Ring mode 14712
Camera 3 03 High resolution (D1/4CIF) Ring mode 14712
Camera 4 04 High resolution (D1/4CIF) Ring mode 14712
Camera 5 05 High resolution (D1/4CIF) Ring mode 14712
Camera 6 06 High resolution (D1/4CIF) Ring mode 14712
Camera 7 07 High resolution (D1/4CIF) Ring mode 14712
Camera 8 08 High resolution (D1/4CIF) Ring mode 14716
Create partition
Delete partition
Edit partition
Total memory: 117700.0 MByte(s)
Number of partitions: 8 of 8 partitions created
Partitioned memory: 117700.0 MByte(s)
Unpartitioned memory: 0 MByte(s)
partitioned
unpartitioned
Set

Eight partitions can be set up on the VideoJet 8008 hard disk, similar to the partitioning that can frequently be found on computer hard drives. Parameters can be defined individually for each partition, such as size, quality, type of video recording and the compression standard used. Changes in these parameters result in a complete reorganization, causing saved data on the partition to be deleted.

The VideoJet 8008 requires a dedicated partition for the recordings of each camera connected. Each partition is linked to its own encoder or camera input: camera input **Video 1** with partition **01**, camera input **Video 2** with partition **02** etc. This assignment cannot be changed. Therefore all partition numbers are always shown in the list, regardless of whether a configuration is present or has been deleted. It is necessary to configure all eight partitions to record with eight cameras. The default configuration already has eight partitions configured.

All partitions are listed in the table on the **Partitioning** page with their partition name, number, quality and size.

In addition, the page provides you with an overview of the hard disk data, namely the total memory, the number of partitions created, partitioned and unpartitioned memory. A pie chart shows how much memory space is partitioned for recordings.

Create partition

Warning!
Changes to the size or number of partitions will result in reorganization of the entire hard disk and the loss of all saved data. Therefore, before making changes to the parameters mentioned, check the recordings and back up the important sequences to your computer's hard drive.

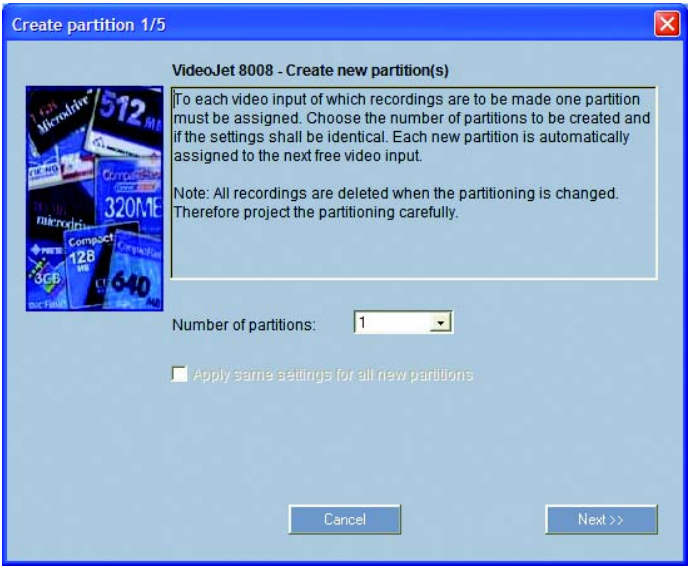
Note
If the maximum eight partitions are already set up, you can only create a new partition after deleting at least one partition (see page 74).

A new partition is created in separate Wizard windows, which provide you with information and guide you step by step through the necessary settings.

This Wizard must be completed once for each partition set up on the hard disk. After starting the Wizard, you can choose the total number of partitions to be created. The Wizard will then restart automatically until all the partitions have been configured.

Note
More than one partition with the same configuration can be created in a single process. Select the **Apply same settings for all new partitions** checkbox on the first page of the Wizard.

– Click **Create partition** to start the Partition Wizard. The first screen of the Wizard will appear.


Create partition 1/5
VideoJet 8008 - Create new partition(s)
To each video input of which recordings are to be made one partition must be assigned. Choose the number of partitions to be created and if the settings shall be identical. Each new partition is automatically assigned to the next free video input.
Note: All recordings are deleted when the partitioning is changed. Therefore project the partitioning carefully.
Number of partitions:
1
Apply same settings for all new partitions
Cancel
Next >>

– Always read the information in the upper part of the window first.

– Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.

– Click **Next >>** to continue to the next step.

– Click **<< Back** to look at the previous step again.

– Click **Cancel** to interrupt the process and close the Wizard.

Making changes

After you have specified all the settings you want, they must be transmitted to the VideoJet 8008 unit and saved. Click **Finish** on the last screen of the Wizard to complete this process.

Warning!
All changes to the settings will only take effect after you have ended the configuration by clicking **Finish** in the last screen.

– Go to the last screen of the Wizard if necessary.

– Click **Finish** to finalize the configuration. All settings will be transmitted to the VideoJet 8008 and are in effect afterward.

Editing a partition

The configuration of a partition can be changed at any time.

Warning!
Making changes to a partition causes the affected partition to be reorganized and all sequences stored on it to be lost.

Changes to the size (total space in partition) will result in reorganization of the entire hard disk and the loss of all saved data.

You should therefore back up all important sequences to the computer's hard drive before making changes to the partition.

The desired changes can be made in the **Edit partition** window.

– Click to select the partition in the list that you want to change.

– Click **Edit partition**. A new window is opened containing information about the selected partition.

– Make the desired changes.

– Click **Set** to save the changes.

– After closing the window, click the **Set** button in the main window to send the changes to the unit and save them there.

Deleting partitions

A partition can be deleted at any time.

Warning!
Deleting a partition causes the entire hard disk to be reorganized and all sequences stored on it to be lost. Therefore, before deleting partitions, check the recordings and back up the important sequences to your computer's hard drive.

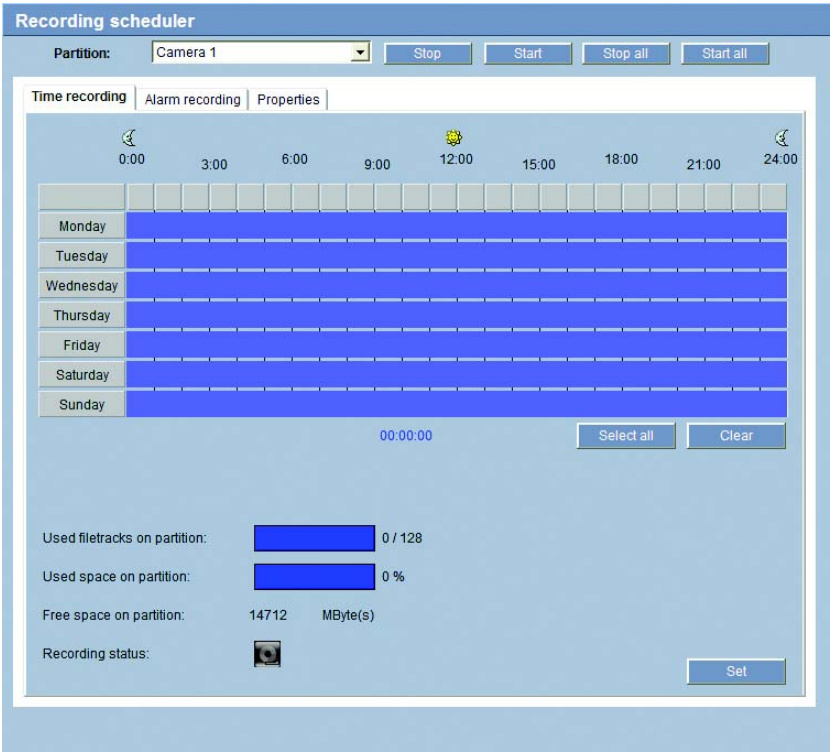
– Click a partition in the list to select it.

– Click **Delete partition** to delete the selected partition. The display continues to show the line with the associated number, only the partition name is deleted and the size is stated as 0.

– Click **Set** to send the changes to the unit and save them.

Recording scheduler

Here you set the parameters for recording on the local hard disk. Recording may be done continuously or only in the event of an alarm.



Partition:

Select the partition in which you want to record. A separate partition is used for recording of each video input.

Activating a partition for recording

After configuring a partition, it can be activated for recording by clicking the **Start** button.

Once started, the Time recording and Alarm recording pages and the settings for the active partition are shown in gray and the configuration cannot be changed.

The icon at the bottom of the pages indicates recording activity on this partition. The icon is animated while recording is in progress. Recording activity can be stopped at any time, and one, several or all partitions can be deactivated.

– Click **Start** to activate the currently selected partition for recording.

– Click **Start all** to activate all partitions set up for recording.

– Click **Stop** to deactivate the currently selected partition for recording. Recordings in progress are interrupted and the configuration can be changed.

– Click **Stop all** to deactivate all partitions set up for recording. Recordings in progress are interrupted and the configuration can be changed.

Time recording

Here you can specify the times during which continuous recording to the hard disk will take place.

For each partition and thus for each camera input, there are separate selection fields for each day of the week. You can select 16 individual recording periods for each day of the week.

Note
If a period has already been selected for alarm recording, it cannot be selected for time recording (see **Alarm recording**, page 79).

– Left-click on the point in the schedule at which recording should start and hold down the mouse button.

– Now drag the selected field to the desired end time for the recording and release the mouse button.

– Right-click a selected time segment to delete it.

– Click **Select all** to select all time segments.

– Click **Delete all** to delete all selected periods.

Used file tracks on partition:

Up to 128 recording tracks are created automatically on a partition. Each new recording is assigned a separate track.

Selecting the **Linear mode** option (see page 82) means that no more new recordings are made after the 128 tracks have been used. Old recordings must be deleted before the tracks can be re-used. Selecting **Ring mode** means that

the 129th recording will be written on the first track, so that the oldest recording is always overwritten by the newest.

Used space on partition:

Indicates the percentage of the partition that is already used.

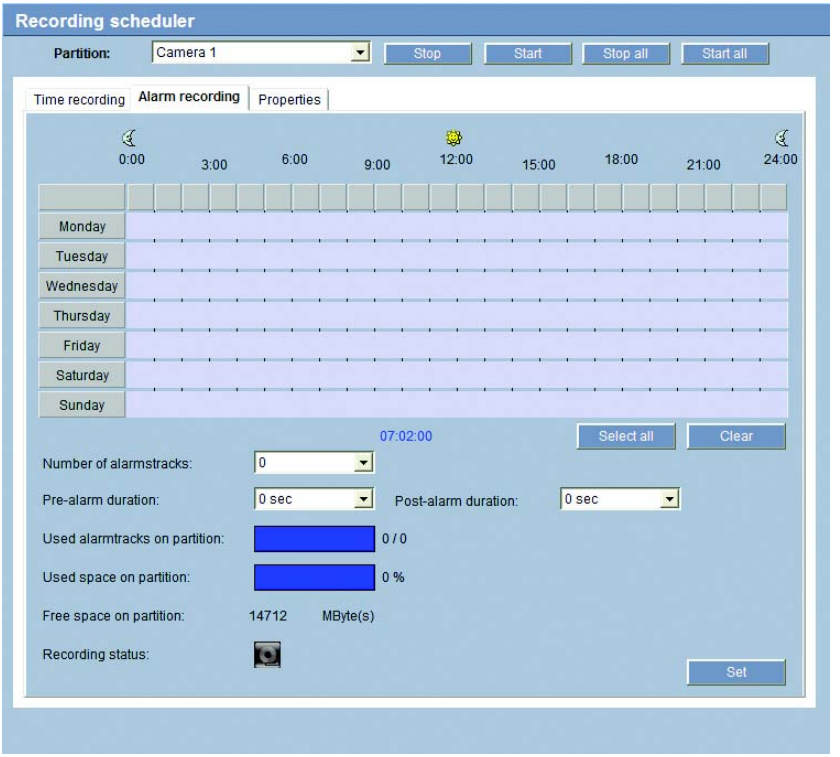
Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

Alarm recording



Here you can define the times when recordings are to be made from the selected camera to the hard disk in the event of an alarm.

As for time recording, separate selection fields are available for each partition and thus for each camera input. You can select up to 16 separate periods for each day of the week. An alarm recording takes place only during the selected periods.

Note

If a period has already been selected for time recording, it cannot be selected for alarm recording (see **Time recording**, page 77).

Warning!

For alarm recordings, alarm tracks must be set up on the desired partition (see **Number of alarm tracks**, page 80).

The VideoJet 8008 uses a special recording mode for alarm recording to optimize the use of the memory capacity. As soon as a time slot for alarm recording begins, continuous recording starts on a segment the size of a complete alarm sequence (pre- and post-alarm).

This segment on the partition works like a ring buffer and is overwritten again and again until an alarm is actually triggered. After that, recording on this segment will go on for the time predefined for post-alarm recording, and then a new segment will be used in the same way.

For this reason the recorded alarm file is always saved at its full length to the partition and the recording space required for each alarm recording can be calculated easily.

Number of alarm tracks:

Here you set the number of alarm tracks on the partition. One alarm event can be recorded on each alarm track. The specified number of alarms can be recorded and archived accordingly. A partition can contain a maximum of 128 alarm recordings.

If the **Ring mode** option is set for the partition (see page 82), the predefined number of the latest alarm recordings will be stored. If the **Linear mode** option is set, recording will stop as soon as all the alarm tracks have been written.

Pre-alarm duration:

Select the period to be covered by the pre-alarm recording.

Alarm recording duration:

Select the duration of the alarm recording.

Alarm tracks on partition:

Indicates how many of the total alarm tracks created are currently used.

Used space on partition:

Indicates the percentage of the partition that is already used.

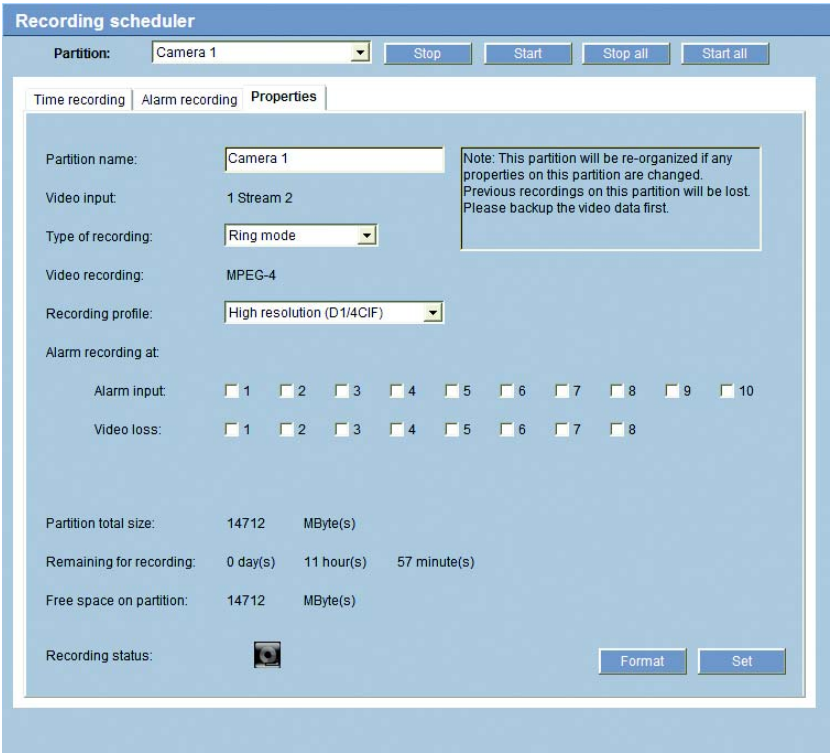
Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

Properties



You can view the current parameters for each selected partition and change them as required in the recording scheduler. You can also activate the alarms that you want to trigger recording. You can also set the profile for the recording here.

Warning!

Making changes to a partition causes the affected partition to be reorganized and all sequences stored on it to be lost.

Changes to the size (total space in partition) will result in reorganization of the entire hard disk and the loss of all saved data.

You should therefore back up all important sequences to the computer's hard drive before making such changes.

Partition name:

You can enter a new name for the partition here.

Video input:

Shows information about the number of the associated video input. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Type of recording:

Select the desired type of recording here.

In **Ring mode**, recording will continue indefinitely. When the maximum hard disk space has been reached, the oldest recordings will be overwritten automatically.

In **Linear mode**, recording will continue until all the disk space has been used. Then recording will be stopped until some old recordings are deleted to provide free space.

Video recording:

The recording format is displayed here for your information.

Recording profile:

For recording always Stream 2 is used. Select here the profile desired to be active while recording is in progress. You can view and modify the parameters for the profiles (see **MPEG-4 encoder** from page 66).

Note
The recording profile can be different from the standard settings **Active profile** for Stream 2 and is only used while recording is in progress.

Alarm recording at:

Here you can select the alarm sensors that should trigger an alarm. The video alarm for one camera can also be used to trigger alarm recording by another camera.

Note
The alarm sensors must be activated for them to be able to trigger recording: You can activate the alarm inputs and video alarms on the **Alarm sources** page (see page 84).

– Click in the checkbox for the alarm sensor you want to trigger a recording. The selected checkbox is marked.

Note
The numbering of the checkboxes for the alarm inputs corresponds to the labeling of the alarm inputs on the rear panel of the unit. For the video alarm, the numbering corresponds to the labeling of the video inputs.

Partition total size:

Indicates how much memory space the partition occupies on the hard disk.

Remaining for recording:

Indicates the maximum time remaining for recording. It is automatically updated after the parameters are changed.

Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

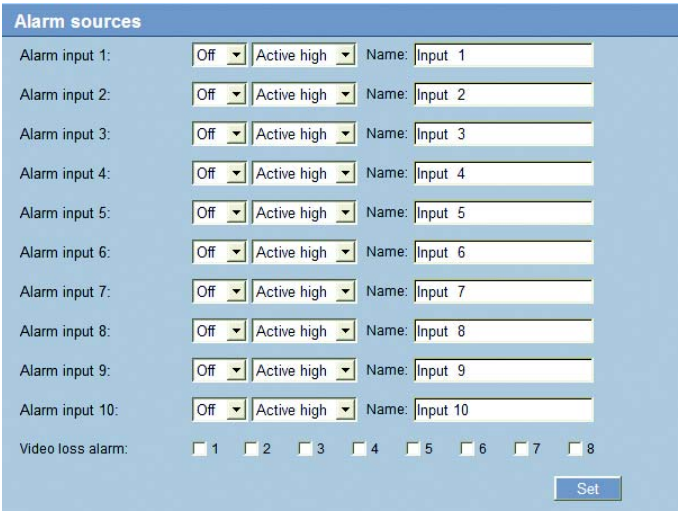
Format

You can delete all recordings on a partition at any time.

Warning!
Before deleting recordings, check them and back up any important sequences to your computer's hard drive.

– Click **Format** to delete all recordings on the partition currently selected.

Alarm sources


Alarm sources
Alarm input 1: Off Active high Name: Input 1
Alarm input 2: Off Active high Name: Input 2
Alarm input 3: Off Active high Name: Input 3
Alarm input 4: Off Active high Name: Input 4
Alarm input 5: Off Active high Name: Input 5
Alarm input 6: Off Active high Name: Input 6
Alarm input 7: Off Active high Name: Input 7
Alarm input 8: Off Active high Name: Input 8
Alarm input 9: Off Active high Name: Input 9
Alarm input 10: Off Active high Name: Input 10
Video loss alarm: 1 2 3 4 5 6 7 8
Set

You can configure the possible alarm triggers for the VideoJet 8008 (for example the alarm inputs).

Alarm input 1 … Alarm input 10:

Select the option **On** in order to activate the alarm via the corresponding external alarm sensor. Otherwise, select **Off**.

Select **Active high** if the alarm is to be triggered by closing the contact. Select **Active low** if the alarm is to be triggered by opening the contact.

Name:

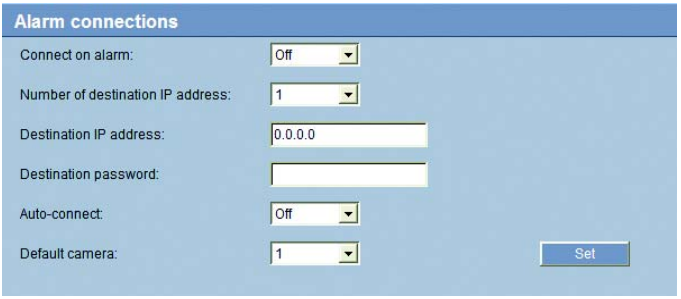
You can enter a name for each alarm input, which is then displayed below the icon for the alarm input on the **LIVEPAGE** during configuration (see **Livepage configuration**, page 94).

Video loss alarm:

Click the check box if you want interruption of the video signal to trigger an alarm. The selected video inputs are checked.

Note
The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Alarm connections



You can select the response of the VideoJet 8008 in case of an alarm. In case of an alarm, the VideoJet 8008 can automatically establish a connection to a predefined IP address. You can enter up to ten IP addresses which will be selected in order by the unit in case of an alarm until a connection is established. You can also choose which camera image should automatically be displayed first on the receiver in case of an alarm.

Connect on alarm:

Select **On** so that the VideoJet 8008 automatically establishes a connection to one of the pre-defined IP addresses in the event of an alarm.

Note
For alarm connections, always Stream 2 is transmitted. Take this into account when assigning the profile (see page 66).

Number of destination IP address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

For each number, enter the corresponding IP address for the desired remote location.

Destination password:

If the remote location is password protected, enter the password here.

Auto-connect:

Select **On** if an active connection should be re-established automatically to one of the previously specified IP addresses after each restart, connection breakdown or network failure.

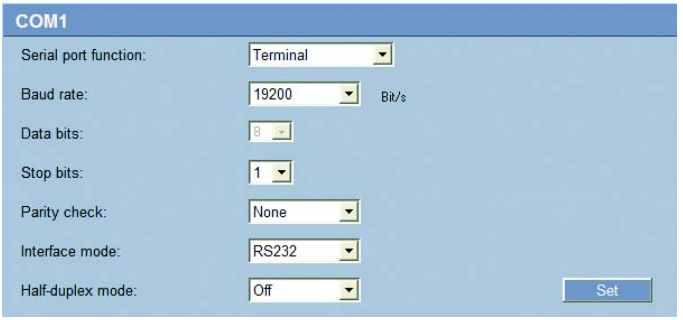
Note
For automatic connections, always Stream 2 is transmitted. Take this into account when assigning the profile (see page 66).

Default camera:

Here you can select the camera whose image will automatically be displayed first to the receiver after the alarm connection has been established. Depending on the system configuration, the receiver can then also select the other cameras.

Note
The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

COM1



The serial interface port **RS232/485** can be configured for specific requirements.

Note
If the VideoJet 8008 is working in multicast mode (see page 54), the first remote location to establish a video connection to the unit is also assigned the transparent data connection. However after about 15 seconds of inactivity, the data connection is automatically terminated and another remote location can exchange transparent data with the unit.

Serial port function:

Select a controllable device from the list. If you want to use the interface to transmit transparent data, select **Transparent**. To operate the unit with a terminal, choose **Terminal**.

Note
After selecting a device, the remaining parameters in the window are set automatically and should not be changed.

Baud rate:

Select the value for the transmission rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

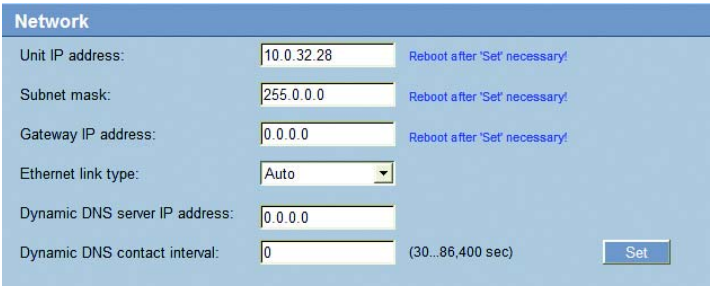
Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

Network



The settings in this window are used to integrate the unit into an existing network.

Warning!
Changes to the IP address, subnet mask or gateway address are transferred to the unit by clicking **Set**. However, they only take effect after the unit is restarted.

– Click **Set** after entering a new IP address.

– To do this, enter the old IP address followed by `/reset` (for instance `192.168.0.80/reset`) in the address bar of your web browser. The VideoJet 8008 will be restarted, after which it can only be accessed at the new IP address.

IP address:

Enter the desired IP address for the VideoJet 8008 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the appropriate subnet mask for the set IP address here.

Gateway address:

If you want the unit to establish a connection to a remote location in a different subnet, enter the IP address of the gateway here. Otherwise, this field can remain empty (0.0.0.0).

Ethernet link type:

If the VideoJet 8008 is connected to the network via a switch, both devices must have the same preset network connection type. If necessary, ask your network administrator what value the associated switch is set to.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s for either full or half-duplex mode (**FD** or **HD**) or to 1 GBit/s FD.

Warning!
Malfunctions can occur (for example image faults) if the capacity of the network is not sufficient for transmission of the maximum data rate generated by the VideoJet 8008.

Dyn. DNS server IP address:

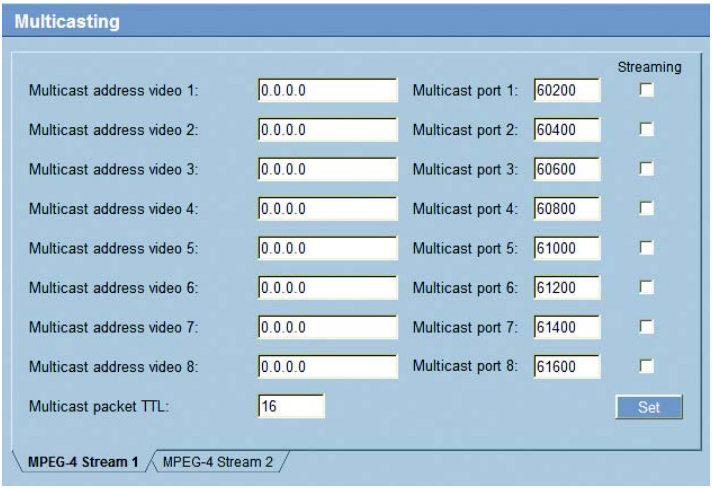
When operating a unit on the Internet, an address pool of available dynamic IT addresses is used for greater efficiency. This means that the unit is assigned a new IP address each time a connection is made and this address varies. Access is easier if the unit is listed on a DNS server. It will contact the server at regular intervals and register its device name and IP address. To connect to the VideoJet 8008 via the Internet, it is enough to enter the corresponding unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

The DNS server from **videotec.info** can be used. The associated IP address is 195.145.107.78. The VideoJet 8008 contacts this server automatically if the desired refresh interval is entered for the next parameter. For example, if the name of the VideoJet 8008 is **MyVideoJet**, in future it is sufficient to enter `MyVideoJet.videotec.info` in the browser as the URL to establish a connection.

Dyn. DNS contact interval:

Enter the desired update interval in seconds.

Multicasting


Multicasting
Streaming
Multicast address video 1: 0.0.0.0 Multicast port 1: 60200
Multicast address video 2: 0.0.0.0 Multicast port 2: 60400
Multicast address video 3: 0.0.0.0 Multicast port 3: 60600
Multicast address video 4: 0.0.0.0 Multicast port 4: 60800
Multicast address video 5: 0.0.0.0 Multicast port 5: 61000
Multicast address video 6: 0.0.0.0 Multicast port 6: 61200
Multicast address video 7: 0.0.0.0 Multicast port 7: 61400
Multicast address video 8: 0.0.0.0 Multicast port 8: 61600
Multicast packet TTL: 16
Set
MPEG-4 Stream 1
MPEG-4 Stream 2

In addition to a 1:1 connection between an encoder and a single receiver (unicast), the VideoJet 8008 can enable multiple receivers to receive the video signal from an encoder simultaneously. This is either done by duplicating the data stream in the unit and then distributing it to multiple receivers (multi-unicast) or by distributing an individual data stream in the network itself to multiple receivers in a defined group (multicast). A dedicated multicast address and port can be specified for each stream on each of the eight encoders. You can switch between streams by clicking the associated tabs.

Note

The prerequisite for multicast operation is a multicast-capable network that uses the UDP and IGMP protocols. Other group membership protocols are not supported. The TCP protocol does not support multicast connections.

A special IP address (class D address) must be configured for multicast operation in a multicast-enabled network.

The network must support group IP addresses and the Internet Group Management Protocol (IGMP V2). The address range is from 224.0.1.0 to 239.255.255.255.

The multicast address can be the same for multiple streams. However, it is then necessary to use a different port in each case so that multiple data streams are not sent simultaneously using the same port and multicast address.

Note

The settings must be made individually for each video input and each stream. The numbering corresponds to the labeling of the video inputs on the rear panel of the unit.

Multicast address Video 1… Multicast address Video 8:

Enter a valid multicast address for each stream from the relevant encoder to be operated in multicast mode (duplication of the data streams in the network).

With the setting **0.0.0.0** the encoder for the relevant stream operates in multi-unicast mode (copying of data streams in unit). The VideoJet 8008 supports multi-unicast connections for up to five simultaneously connected receivers.

Note

Duplication of data places a heavy demand on the CPU and can lead to impairment of the image quality under certain circumstances.

Multicast port 1 ... Multicast port 8:

If there are simultaneous data streams at the same multicast address, you must assign different ports to each data stream.

Enter the port address for the relevant stream here.

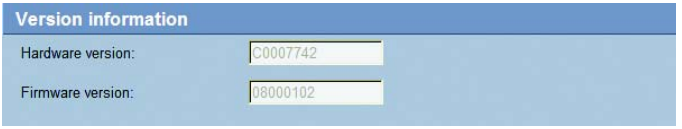
Streaming:

Click in the checkbox to activate multicast streaming mode for the relevant stream. The selected checkbox is marked.

Multicast packet TTL:

A value can be entered to specify how long the multicast data packets are active on the network. If multicast is to be run via a router the value must be greater than 1.

Version information



The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

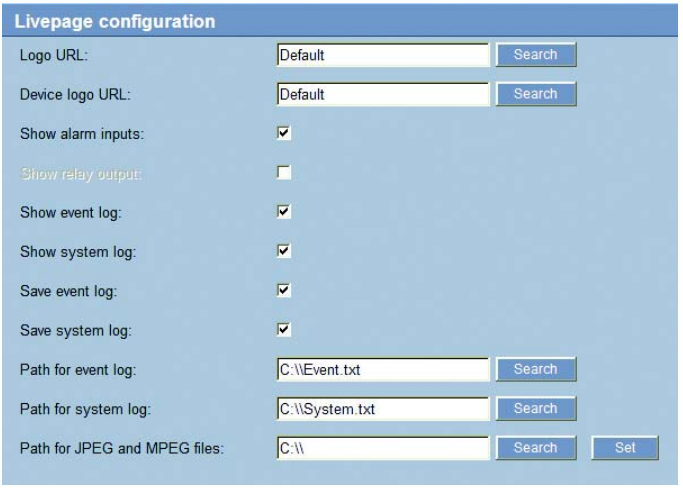
Hardware version:

The hardware version number of the VideoJet 8008 is displayed.

Firmware version:

The firmware version number of the VideoJet 8008 is displayed.

Livepage configuration



In this window, you can adapt the appearance of the **LIVEPAGE** to meet your requirements. Options are provided here to display various information and operating elements in addition to the video image.

Moreover, individual background graphics can be used for the main window and the upper area of the window (banners).

Note

Either GIF or JPEG images can be used. The file paths must correspond to the access mode (for example `C:\Images\Logo.gif` for access to local files or `http://www.mycompany.com/images/logo.gif` for access via the Internet/Intranet).

For access via the Internet/Intranet, there must be a connection in order to display the image. The image files are not stored on the VideoJet 8008.

– Mark the checkboxes for the information to be displayed on the **LIVEPAGE**. The selected elements are checked.

– Check on the **LIVEPAGE** whether and how the desired items are displayed.

Logo URL:

Enter the path to a suitable background graphic in this field. The image can be stored on a local computer, a local network or at an Internet address.

Click **Search** if necessary to find a suitable image on the local network.

Device logo URL:

Enter the path for a suitable image for the upper part of the window (banner) here. The image can be stored on a local computer, a local network or at an Internet address.

– Click **Search** if necessary to find a suitable image on the local network.

Note
To restore the original graphics, simply delete the entries in the **Logo URL** and **Device logo URL** fields.

Show alarm inputs:

Alarm inputs are displayed next to the video image as icons along with their assigned names. If an alarm is active the corresponding icon changes color.

Show relay output:

This option has no function with this hardware version.

Show event log:

The event messages will be displayed with the date and time in a field below the video image.

Show system log:

The system messages will be displayed with the date and time in a field below the video image and provide information about the establishment and termination of connections, etc.

Save event log:

Select this option to save event messages in a text file on the local computer.

This file can be viewed, edited and printed with any text editor or the standard Office software.

Save system log:

Select this option to save system messages in a text file on the local computer.

This file can be viewed, edited and printed with any text editor or the standard Office software.

Path for event log:

Enter the path for saving the event log here.

– If necessary, click **Search** to find a suitable folder.

Path for system log:

Enter the path for saving the system log here.

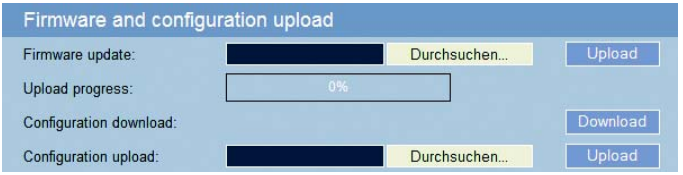
– If necessary, click **Search** to find a suitable folder.

Path for JPEG and MPEG files:

Enter the path for the storage location of individual images and video sequences that you can save from the **LIVEPAGE** or from the **MEDIA-REPLAY** page.

– If necessary, click **Search** to find a suitable folder.

Firmware and configuration upload



Firmware update:

The VideoJet 8008 is designed in such a way that its functions and parameters can be updated with firmware. To accomplish this, the current firmware package is transferred to the unit via the selected network. The firmware will be installed there automatically.

Thus a VideoJet 8008 can be serviced and updated remotely without requiring a technician to make changes to the installation on site.

The current firmware can be obtained from your customer service center or from the Bosch Security Systems download area.

Warning!
Before starting the firmware update, make sure that you have selected the correct upload file! Uploading the wrong files can result in the unit no longer being addressable, requiring it to be replaced.

Do not interrupt the firmware installation for any reason! Interruption may lead to faulty coding of the Flash EPROM. This can result in the unit no longer being addressable, requiring it to be replaced.

– First, save the update file to the hard disk.

– Enter the full path for the update file in the field or click **Browse...** to locate and select the file.

– Click **Upload** to begin transmission to the unit. The progress bar allows you to monitor the transfer.

The new firmware is unpacked and the Flash EPROM is reprogrammed. The time remaining is shown by the message **going to reset. Reconnecting in ... seconds**. After the upload is completed successfully, the unit will restart automatically.

If the **Fail** LED flashes, the upload has failed and must be repeated. To perform the upload, you must switch to a special page:

– In the address bar of your browser, after the unit IP address enter `/main.htm` (for example `192.168.0.80/main.htm`).

– Repeat the upload.

Configuration download:

You can save configuration data for the VideoJet 8008 to a computer and load saved configuration data from a computer to the unit.

– Click **Download**. A dialog will appear.

– Follow the instructions to save the current settings.

Configuration upload:

– Enter the full path of the file to upload or click **Browse...** to select the desired file.

– Make certain that the file to be loaded comes from the same device type as the unit you want to reconfigure.

– Click **Upload** to begin transmission to the unit. The progress bar allows you to monitor the transfer.

Once the upload is complete, the new configuration is activated. The time remaining is shown by the message **going to reset Reconnecting in ... seconds**. After the upload is completed successfully, the unit will restart automatically.

Function test

The VideoJet 8008 offers a variety of configuration options. Therefore you should check that it works properly after installation and configuration.

This is the only way to ensure that the VideoJet 8008 will function as intended in the event of an alarm.

Your check should include the following functions:

- Can the VideoJet 8008 be called remotely?
- Does the VideoJet 8008 transmit all the data required?
- Does the VideoJet 8008 respond as desired to alarm events?
- Is it possible to control peripheral devices if necessary?

6 Operation

Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 6.0 or later) can be used to receive live images from the VideoJet 8008, control cameras or other peripherals and replay sequences stored on the local hard disk.

Note
Make sure the graphics card is set to 16 or 32 bit colour depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Instructions for using the web browser can be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (Intranet or Internet)

Note
You should also take note of the information in the **System requirements** datasheet on the product CD supplied.

Install MPEG ActiveX

Note
In order to be able to play back live video images, an appropriate MPEG ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.

– Follow the on-screen instructions.

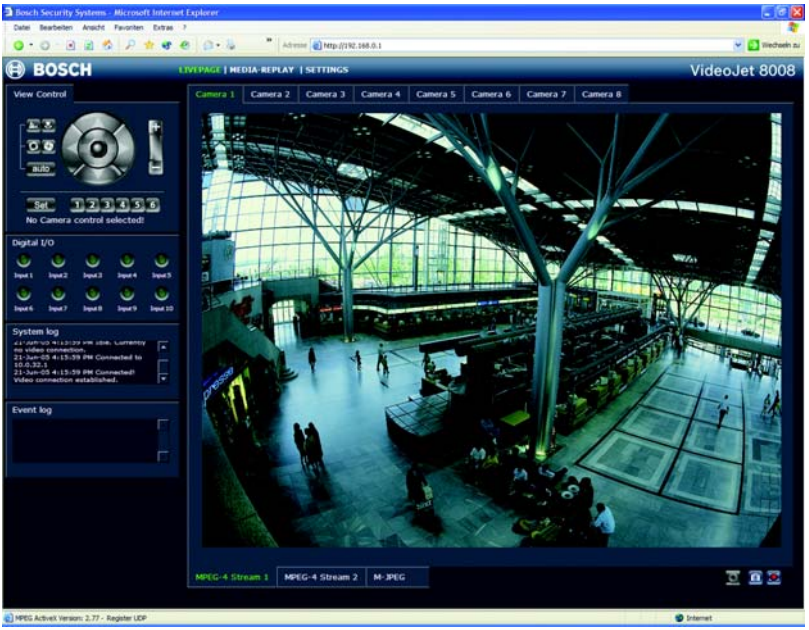
Establishing the connection

The VideoJet 8008 must be assigned a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.1**

– Start the web browser.

– Enter the IP address of the VideoJet 8008 as the URL. The connection will be established and, after a short time, the **LIVEPAGE** with the video image will appear.



The LIVEPAGE

After the connection is established, the **LIVEPAGE** is initially displayed. It shows the live video image on the right of the browser window. Depending on the configuration, various text overlays may be visible on the live video image (see **Display stamping**, page 63).

Other information may also be shown next to the live video image on the Livepage. The display depends on the settings on the **Livepage configuration** page (see page 94).

Note
If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the device and network configuration.

Password protection in VideoJet 8008

If the VideoJet 8008 is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear when you attempt to access protected areas.

Note
A VideoJet 8008 offers you the option of limiting access across various authorization levels (see pages 46 and 60).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is correct, the desired page is displayed.

Image selection

You can view the image from each camera individually on a full screen.

– Click on one of the tabs above the live video image for **Camera 1** … **Camera 8** to view the image from the corresponding camera.

– Click on one of the **MPEG-4 Stream 1**, **MPEG-4 Stream 2** or **M-JPEG** tabs below the video image to switch between the different displays for the camera image.

Camera control

Control options for peripheral devices (such as a pan and tilt head or a dome camera) depend on the type of device installed and the configuration of the VideoJet 8008.

If a controllable device (such as a dome camera) is configured and connected to the VideoJet 8008, the controls for the device are displayed next to the video image.

– To control a peripheral device click the appropriate controls.

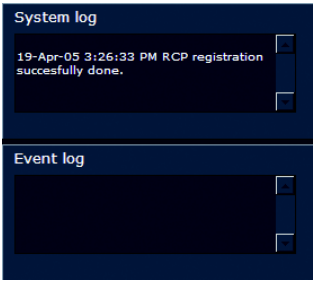
– Move the mouse pointer over the video image. Additional options for controlling peripheral devices are displayed with the mouse pointer.

Digital I/O

In the event of an alarm, a green alarm symbol for the triggering alarm input is displayed next to the video image. The display of alarms and other details depends on the configuration of the unit (see **Livepage configuration**, page 94).

The alarm symbols **Input 1** ... **Input 10** show the input status of an alarm input for your information: **Active 1** = Symbol lit in green, **Active 0** = Symbol not lit.

System log / Event log



The **System log** field contains information about the operating status of the VideoJet 8008 and the connection. These messages can be saved automatically in a file (see page 95).

Events such as the triggering or end of alarms are shown in the **Event log** field. These messages can be saved automatically in a file (see page 95).

Saving snapshots

Individual images from the video sequence that is currently being shown on the **LIVEPAGE** can be saved in JPEG format on the computer's hard disk.

– Click the symbol for saving single images. The image is saved at a resolution of 704 × 576 pixels (D1/4CIF). The storage location depends on the configuration of the VideoJet 8008 (see page 96).

Recording video sequences

Sections of the video sequence that is currently being shown on the **LIVEPAGE** can be saved on the computer's hard disk.

– Click the symbol for recording video sequences. Saving begins immediately. The storage location depends on the configuration of the VideoJet 8008 (see page 96). A recording in progress is indicated by the blinking of the red dot on the icon.

– Click the symbol for recording video sequences again. Saving will be terminated.

Image resolution

The sequences will be recorded at the resolution specified in the encoder configuration (see pages 36 and 70).

Installing MPEG viewer

You can play back saved video sequences using the MPEG viewer from Bosch Security Systems, which can be found on the software CD supplied (see **Components supplied**, page 9).

Note
A corresponding MPEG ActiveX must be installed on the computer in order to play back saved video sequences using the MPEG viewer. Further information can be found on page 27.

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the CD in the Windows Explorer.

– Open the **MPEG Viewer** directory and copy the file **MPEGViewer.exe** to your computer's hard drive.

– If necessary, you can also start the MPEG viewer by double-clicking the file **MPEGViewer.exe**.

Recordings in progress

During automatic recording to the hard disk of the VideoJet 8008 by one of the background programs, the hard disk icon below the MPEG video image on the **LIVEPAGE** changes.

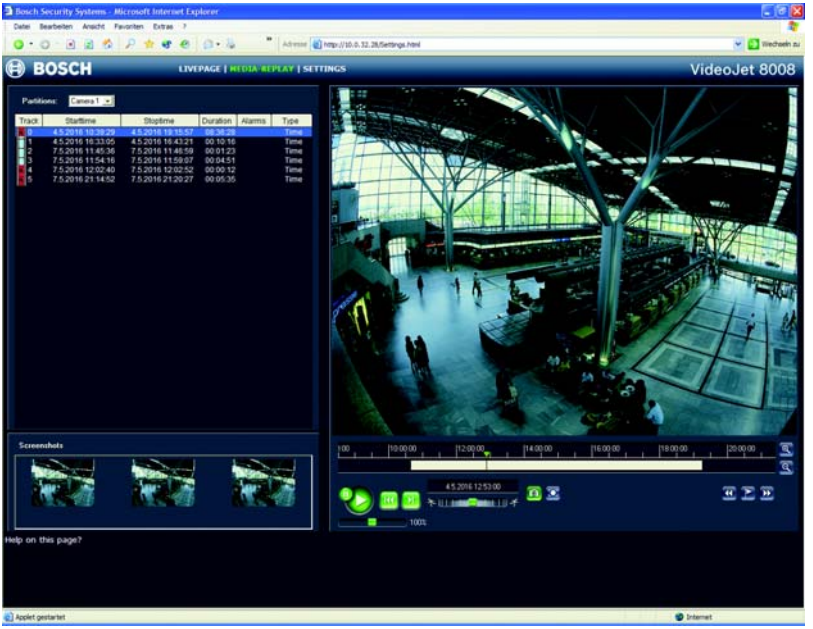
It is animated to indicate that a recording is in progress. If no recording is taking place the icon is static.

The MEDIA-REPLAY page

The integrated hard disk allows the VideoJet 8008 to be used as a digital video recorder for local long-term recording.

The **MEDIA-REPLAY** page for playing back recorded video sequences can be reached from the **LIVEPAGE** or from the **SETTINGS**.

– Click the link **MEDIA-REPLAY** in the navigation bar at the top of the window. The playback page will be displayed.



Recording selection

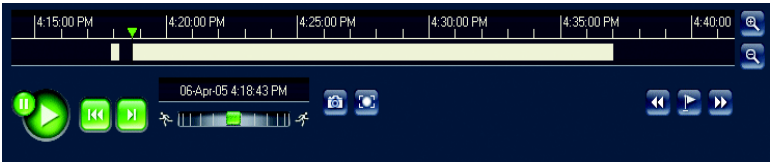
First select the partition whose recordings you wish to view on the left-hand side.

The list contains all sequences saved on the partition. Each sequence is assigned a sequential number (track). The start and stop time, recording duration, number of alarms and recording type are displayed.

– Click on a partition name in the list to display the recordings for that partition.

– Click a list entry. Playback of the selected sequence will begin immediately in the video window.

Playback control



A time bar is shown below the video image to indicate the progress of the sequence. If a particular sequence has been selected for playback by clicking it, the selected sequence is highlighted in blue in the list with a green frame. The associated time segment is shown in gray in the bar. A green arrow above indicates the position of the image currently shown within the sequence.

The time bar offers various navigation options within and between the sequences.

– Change the time segment displayed by dragging the gray area to the left or right with the mouse button held down.

– Change the time intervals displayed by clicking the zoom buttons (magnifying glass icons). The display can cover a period of anything between two months and a few seconds.

– Select another sequence for playback by clicking the corresponding gray marking.

– If necessary, drag the green arrow to the time position at which playback is to start. Instead of doing this, you can also double click directly in the gray time segment or in the time scale to skip to the selected position. Detailed information on the date and time is shown below the bar.

The buttons below the video image can be used to control playback. The buttons have the following functions:

Play
or pause

Skip to the beginning of the active video sequence
or to the previous sequence from the list

Skip to the end of the active video sequence
or to the next sequence from the list

You can use the slider to control the playback speed and the fast forward/rewind: the center means playback at recording speed, rewind is to the left, fast forward to the right. The fast forward or rewind speed changes depending on how far you move the slider towards the relevant icons.

Red bars inside the gray sequence fields indicate triggered alarm times. They can be activated quickly by dragging the green arrow to the relevant points.

In addition, you can place marks in the sequences, so-called bookmarks, allowing you to skip immediately to particular points. These bookmarks are indicated by small yellow arrows above the time segment. How to use bookmarks:

Skip to the previous bookmark

Set bookmark

Skip to the next bookmark

Note

The bookmarks cannot be deleted individually. Bookmarks are only valid while you remain on the **MEDIA-REPLAY** page; they are not saved along with the sequences. As soon as you exit the page, all bookmarks are deleted.

Backup

You can back up video sequences or individual images saved on the VideoJet 8008 hard disk to your computer's hard disk.

First select the sequence to save as described above. The following buttons are available for backup:

Back up a sequence to your computer's hard drive

Back up a snapshot to your computer's hard drive

– Start playback of the sequence you want to back up as a whole or in parts.

– Click the icon for backing up a sequence. Saving begins immediately and is indicated by flashing of the red point in the icon.

– Click the icon for sequence backup again to stop saving.

This procedure can be repeated several times within a sequence to back up several segments of a longer sequence.

– Click the button for backing up a snapshot to save only snapshots from the sequence being played to your hard disk.

The snapshots will be shown immediately after clicking in the **Event log** area.

The location for saving sequences and snapshots can be specified in the VideoJet 8008 configuration (see page 96).

Installing MPEG viewer

You can play back saved video sequences using the MPEG viewer from Bosch Security Systems, which can be found on the software CD supplied (see **Components supplied**, page 9).

Note
A corresponding MPEG ActiveX must be installed on the computer in order to play back saved video sequences using the MPEG viewer. Further information can be found on 27.

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the CD in the Windows Explorer.

– Open the **MPEG Viewer** directory and copy the file **MPEGViewer.exe** to your computer's hard drive.

– If necessary, you can also start the MPEG viewer by double-clicking the file **MPEGViewer.exe**.

Hardware connections between video servers

A VideoJet 8008 with a camera connected to it can be used as a transmitter and a compatible MPEG-4 hardware decoder (such as the VIP XD) with a connected monitor as a receiver using an Ethernet network connection. This way it is possible to cover large distances with little effort for installation or cabling.

Installation

The compatible video servers are designed to connect with one another automatically with the corresponding configuration. This only requires that they be part of a closed network. Proceed as follows to install the devices:

– Connect the devices to the closed network using Ethernet cables.

– Connect them to the mains supply.

Note
Make sure the devices are configured for the network environment and the correct IP address for the remote location to be contacted in the event of an alarm is set in the **Alarm connections** field (see pages 51 and 85).

Establishing the connection

There are three options for establishing a connection between a transmitter and a compatible receiver in a closed network:

- an alarm,
- a terminal program or
- a web browser

Connect on alarm

With the appropriate configuration, a connection between a transmitter and a receiver is established automatically when an alarm is triggered (see page 85). After a short time, the live video image from the transmitter will be shown on the connected monitor.

This connection option can also be used to connect a VideoJet 8008 and a compatible receiver using a switch connected to the alarm input. In this case, no computer is needed to establish the connection.

Connecting with a terminal program

Various requirements must be met in order to operate using a terminal program (see page 23).

– Start the terminal program and enter the command `i` in the main menu to switch to the **IP** menu.

– Enter the command `r` in the **IP** menu to change the remote IP address, then enter the IP address of the device to connect to.

– Enter the command `a` in the **IP** menu to activate the automatic connection set up.

Connecting with a web browser

Various requirements must be met in order to operate using a Web program (see page 27).

Note
Transmitter and receiver must be located in the same subnet to establish a hardware connection with a web browser (see pages 52 and 89).

– Use the web browser to connect to the receiver. Its home page will be displayed.

– Under **Video sources** on the page **CONNECTIONS**, select the VideoJet 8008. A JPEG snapshot of the video source selected will be displayed on the page.

– Set the video input you want the images to come from.

– Click **MPEG-4 connection** to begin displaying the video images on the connected monitor.

Closing the connection

The connection may be closed using a terminal program or web browser.

Closing the connection with a terminal program

– Start the terminal program (see page 23); enter the command `i` in the main menu to switch to the **IP** menu.

– Enter the command `a` in the **IP** menu to toggle off the automatic connection.

Closing the connection with a web browser

– Use the web browser to connect to the receiver. Its home page will be displayed.

– In the title bar of the 'Monitor' window on the page **CONNECTIONS**, click on the **X** icon to end the display of the video images on the connected monitor.

Operation with decoder software

The VideoJet 8008 video server and VIDOS software combine to provide a high-performance system solution.

VIDOS is software for operating, controlling and administering CCTV installations (such as surveillance systems) at remote locations. It runs under Microsoft Windows operating systems. Its main job is decoding video, audio and control data from a remote transmitter.

There are many options available for operation and configuration operation when using a VideoJet 8008 with VIDOS. Refer to the software documentation for more details.

Controls on the front panel

The VideoJet 8008 has various controls and indicators on the front panel (see page 15). You can show some of the most important configuration parameters in the display. However, it is not possible to change the parameters here.

– Press the **Menu/Exit** key. The menu is opened. You will see the first parameter (**IP address**) and the set value.

– Press the arrow keys to view more parameters.

– Press the **Menu/Exit** key again to close the menu.

Note
The **Set** key is designed to allow future expansion of functions.

Parameters available in the display menu

The parameters available in the display menu are described briefly below.

IP Address

Current IP address of the unit.

Subnet Mask

Current subnet mask of the unit.

Gateway

Current gateway IP address of the unit.

MAC address

Current MAC address of the unit.

Ethernet link

Quality of the network connection.

Current connections

Displays the total number of current connections via the network.

Video locked

Shows the camera inputs at which a video signal is currently available (indicated by **O**).

Input pin states

Shows the alarm inputs at which an alarm is currently available (indicated by **H**).

EthTX
EthRX

Current data transmission rate from and to the VideoJet 8008.

HDD Throughput

Current recording speed to the VideoJet 8008 hard disk.

SW version

Firmware version number for VideoJet 8008.

HW version

Hardware version number for VideoJet 8008.

HDD Capacity

Current free memory space on the hard disk.

COM1

Information about the serial interface (standard, interface parameters).

Fan 1
Fan 2

Information about the status of the two fans on the rear of the unit.

Date
Time

Information about the date and time setting.

System uptime

Unit operating time since last being turned on or since the last reset (in days, hours, minutes and seconds).

Encoder status

Indicates the encoders that are functioning correctly (indicated by **+**).

7 Maintenance and upgrades

Testing the network connection

The `ping` command can be used to check the connection between two IP addresses. This allows you to test whether a device is active in the network.

– Open the DOS command prompt.

– Type `ping` followed by the IP address of the device.

If the device is found, the response appears as " `Reply from ...` ", followed by the number of bytes sent and the transmission time in milliseconds. Otherwise, the device cannot be accessed via the network. This might be because

- The device is not properly connected to the network. Check the cable connections in this case.
- The device is not correctly integrated into the network. Check the IP address, subnet mask and gateway address.

Restart (reset)

If necessary, you can restart the VideoJet 8008, for example if the unit is no longer responding. All settings are retained.

– In the address bar of the web browser, enter `/reset` after the unit IP address (for example `192.168.0.80/reset`).

A new page appears containing the message **going to reset Reconnecting in ... seconds**, indicating the time until the connection will automatically be re-established.

Repairs

Warning!
Never open the casing of the VideoJet 8008. The unit does not contain any user serviceable parts.

Ensure that all maintenance or repair work is performed only by qualified personnel (electrical engineering or network technology specialists). In case of doubt, contact your dealer's technical service center.

Transfer and disposal

The VideoJet 8008 should only be passed on together with this user guide.

The unit contains environmentally hazardous materials that must be disposed of in accordance with the legal requirements.

Defective or superfluous devices and parts should be disposed of professionally or taken to your local collection point for hazardous materials.

8 Appendix

Troubleshooting

If you cannot resolve a fault, please contactyour supplier or system integrator or go direct to Bosch Security Systems Customer Service.

The version numbers of the internal processors can be viewed on a special page. Please note this information before contacting Customer Service.

– In the address bar of your browser, after the unit IP address enter `/version.htm` (for example `192.168.0.80/version.htm`).

– Write down the information or print out the page.

The following table is intended to help you identify the causes of malfunctions and correct them where possible.

Malfunction	Possible causes	Solution
No connection between the unit and terminal program.	Incorrect cable connections.	Check all cables, plugs, contacts and connections.
	The computer's serial interface is not connected.	Check the other serial interfaces.
	Interface parameters do not match.	Select a different interface if necessary and make sure that the computer's interface parameters match those of the unit. If necessary try the following standard parameters: 19,200 baud, 8 data bits, no parity, 1 stop bit. Then disconnect the unit from the mains and reconnect it again after a few seconds.
No image transmission to remote location.	Defective camera.	Connect a local monitor to the camera and check the camera function.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.

Malfunction	Possible causes	Solution
No connection established, no image transmission.	The unit's configuration.	Check all configuration parameters.
	Faulty installation.	Check all cables, plugs, contacts and connections.
	Wrong IP address.	Check the IP addresses (terminal program).
	Faulty data transmission within the LAN.	Check the data transmission with `ping`.
	The maximum number of connections has been reached.	Wait until there is a free connection and call the transmitter again.
The unit does not report an alarm.	Alarm source is not selected.	Select possible alarm sources on the **Alarm sources** configuration page.
	No alarm response specified.	Specify the desired alarm response on the **Alarm connections** configuration page, if necessary change the IP address.
Control of cameras or other devices is not possible.	The cable connection between the serial interface and the connected device is incorrect.	Check all cable connections and ensure all plugs are properly plugged in.
	The interface parameters conflict with those of the other device connected.	Make sure the settings of all devices involved are compatible.
The unit is not operational after firmware upload.	Power failure during programming by the update file.	Have the unit checked by Customer Service and replace if necessary.
	Incorrect update file.	Enter unit IP address followed by `/main.htm` in the web browser and repeat the upload.

LEDs

The VideoJet 8008 video server is equipped with several LEDs that show the operating status and can give indications of possible malfunctions:

Power

Not lit:	Unit is switched off.
Lit green:	Unit switched on, no connection.
Flashing green:	600 ms (50:50) = One active connection 300 ms (50:50) = Two active connections 150 ms (50:50) = Three or more active connections

HDD

Flashing red:	Data transmission to and from hard disk in progress.

Fail

Flashing red:	Hardware fault (fan defective); Firmware upload failed (in conjunction with display message **VideoJet-8008 DEFAULT**)

LAN interface (rear)

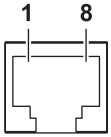
Green LED lit:	Physical connection to the network established.
Orange LED flashing:	Data transfer via the network.

RS232/485 interface

Options for using the serial interface include transparent data transfer, control of connected devices or operation of the unit with a terminal program. Depending on the setting, the serial interface uses the RS232 or RS244/285 standards. The standard used depends on the current configuration (see page 56 and 87).

RJ45 connector pin assignment

The pin assignment depends on the standard used.



Pin	RS232 standard	RS422/485 standard
1	RxD (receive data)	RxD+ (receive data plus)
2	CTS (clear to send)	RxD- (receive data minus)
3	–	–
4	–	–
5	GND (ground)	GND (ground)
6	–	–
7	TxD (transmit data)	TxD- (transmit data minus)
8	RTS (ready to send)	TxD+ (transmit data plus)

Terminal block

The terminal block is used to connect alarm switches.

Terminal assignment (starting at top left)

Terminal	Function
IN1	Alarm 1 input
⏚	Ground to input 1
IN2	Alarm 2 input
⏚	Ground to input 2
IN3	Alarm 3 input
⏚	Ground to input 3
IN4	Alarm 4 input
⏚	Ground to input 4
IN5	Alarm 5 input
⏚	Ground to input 5
IN6	Alarm 6 input
⏚	Ground to input 6
IN7	Alarm 7 input
⏚	Ground to input 7
IN8	Alarm 8 input
⏚	Ground to input 8
IN9	Alarm 9 input
⏚	Ground to input 9
IN10	Alarm 10 input
⏚	Ground to input 10

To connect the alarm inputs, connect each input with the ground terminal lying to the left of it using a trigger contact.

Glossary

Brief explanations of some of the terms and abbreviations found in this user guide are given below.

10/100/1000 Base-T	IEEE-802.3 specification for 10, 100 or 1000 MBit/s Ethernet
ARP	Address Resolution Protocol: a protocol for mapping MAC and IP addresses
Baud	Unit of measure for the speed of data transmission
Bit/s	Bits per second, the actual data rate
CIF	Common Intermediate Format, video format with 352 x 288/240 pixels
DNS	Domain Name Service
FTP	File Transfer Protocol
Full duplex	Simultaneous data transmission in both directions (sending and receiving)
GOP	Group of pictures
HTTP	Hypertext Transfer Protocol
ICMP	Internet Control Message Protocol
ID	Identification: a machine-readable character sequence
IEEE	Institute of Electrical and Electronics Engineers
IGMP	Internet Group Management Protocol
Internet Protocol	The main protocol used on the Internet, normally in conjunction with the Transfer Control Protocol (TCP): TCP/IP
IP	*See* "Internet Protocol"
IP address	A 4-byte number uniquely defining each device on the Internet. It is usually written in dotted decimal notation with full stops separating the bytes, for example "209.130.2.193".
ISDN	Integrated Services Digital Network
JPEG	An encoding process for still images (Joint Photographic Experts Group)
kBit/s	Kilobits per second, the actual data rate
LAN	*See* Local area network
Local area network	A communications network serving users within a limited geographical area, such as a building or a university campus. It is controlled by a network operating system and uses a transfer protocol.
MAC	Media Access Control

MPEG-4	Further development of MPEG-2, designed for transmission of audiovisual data at very low transfer rates (for example via the Internet).
Net mask	A mask that explains which part of an IP address is the network address and which part comprises the host address. It is usually written in dotted decimal notation with full stops separating the bytes, for example "255.255.255.192".
Parameters	Values used for configuration
QCIF	Quarter CIF, a video format with 176 × 144/120 pixels
RFC 868	A protocol for synchronizing computer clocks over the Internet
RS232/RS422/RS485	Standards for serial data transmission
RTP	Realtime Transport Protocol; A transmission protocol for real-time video and audio
Subnet mask	*See* Net mask
TCP	Transfer Control Protocol
Telnet	Login protocol with which users can log on to a remote computer (host) on the Internet
TTL	Time-To-Live; life cycle of a data packet in station transfers
UDP	User Datagram Protocol
URL	Uniform Resource Locator
UTP	Unshielded Twisted Pair
WAN	*See* wide area network
Wide area network	A long distance link used to extend or connect remotely located local area networks

Specifications

Unit

Operating voltage	90 ... 250 V AC, 50/60 Hz
Current consumption	maximum 60 VA
LAN interface	1 × Ethernet 10/100/1000 Base-T, automatic adaptation, half/full duplex, RJ-45
Data interface	1 × RS232/RS422/RS485, bi-directional, RJ-45
Alarm inputs	10 × push-in terminals (non-isolated closing contact), max. trip resistance 10 Ohm
Video inputs	8 × BNC jack 0.7 ... 1.2 V_{p-p}, 75 Ohm switchable, PAL/NTSC
Indicators	3 × LED (operating voltage, hard disk activity, hardware fault) and display on the front panel, 2 × LED (network connection, data traffic) on the LAN interface on the rear panel
Storage medium	1 × hard disk - 120, 240, 600 or 800 GB
Operating conditions	Temperature: 0 ... +40 °C (with 800 GB HD) 0 ... +50 °C (with other HD) Relative humidity: 20 ... 80 %, non-precipitating Altitude 0 ... 3,000 m
Storage conditions	Temperature: –20 ... +60 °C Relative humidity: 0 ... 95%, non-precipitating Max. altitude 10,000 m
Regulatory approvals	CE: IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Section 1 Part 15
Dimensions (w × h × l)	409.2 × 48.6 × 351.5 mm (including feet and BNC connections)
Weight	approx. 6.0 kg (with 240 GB hard disk)

Protocols/standards

Video standards	PAL, NTSC
Video encoding protocols	MPEG-4, JPEG
Video data rate	1 MBit/s ... 5 MBit/s per channel
Image resolutions (PAL/NTSC)	704 × 576/480 pixels (D1/4CIF) 704 × 288/240 pixels (2CIF) 352 × 576/480 pixels (1/2 D1) 352 × 288/240 pixels (CIF) 176 × 144/120 pixels (QCIF)
Total delay	120 ms (PAL/NTSC)
Image refresh rate	1 ... 50/60 fields/s adjustable (PAL/NTSC) Field/image-based coding
Network protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V2, ICMP, ARP

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